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ADP-based intelligent frequency control via adaptive virtual inertia emulation

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COMPARATIVE ANALYSIS OF VARIOUS NONLINEAR CONTROLLER DESIGN FOR DC MICROGRID

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Stability Enhancement of Battery-Testing DC Microgrid: An ADRC Based Virtual Inertia Control Approach

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Design of power quality enhanced sustainable bidirectional electric vehicle charging station in distribution grid

Fractional order PI control combined with improved frequency droop method for power management in standalone LVDC microgrids

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Modified Virtual Inertia Mechanism Based ESS for A real Multi-Source Power System Application: The Egyptian Grid
Vol. 2021-October).

A comprehensive overview of framework for developing sustainable energy internet: From things-based energy network to
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24 24 p., 111409.

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Adaptive Droop Control Using Adaptive Virtual Impedance for Microgrids with Variable PV Outputs and Load Demands
9640 11 p., 9198101.

A Novel Power Sharing Scheme of Controlling Parallel-Operated Inverters in Islanded Microgrids
Cao, W., Han, M., Zhang, X., Xie, W., Tinajero, G. D. A. & Guerrero, J. M., Oct 2021, In: IEEE Journal of Emerging and
Selected Topics in Power Electronics. 9, 5, p. 5732 - 5746

Hybrid automaton-fuzzy control of single phase dual buck half bridge shunt active power filter for shoot through elimination
and power quality improvement
Power and Energy Systems. 131, 106986.

Optimal location of an electrical vehicle charging station in a local microgrid using an embedded hybrid optimizer
Suresh, V., Bazmohammadi, N., Janik, P., Guerrero, J. M., Kaczerowska, D., Rezmer, J., Jasinski, M. & Leonowicz, Z.,

Voltage regulation of buck converter with constant power load: An adaptive power shaping control
He, W., Namazi, M. M., Koofigar, H. R., Amirian, M. A. & Guerrero, J. M., Oct 2021, In: Control Engineering Practice. 115,
104891.

Space Microgrids for Future Manned Lunar Bases: A Review

Message Queuing Telemetry Transport Communication Infrastructure for Grid-Connected AC Microgrids Management

A survey on fpid controllers for lfo damping in power systems using synchronous generators, facts devices and inverter-
based power plants
14, 18, 26 p., 5983.
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A distributed-controlled harmonic virtual impedance loop for AC microgrids

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Comprehensive power flow modelling of hierarchically controlled AC/DC hybrid islanded microgrids

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A Non-Isolated High Step-Up Interleaved DC-DC Converter with Diode-Capacitor Multiplier Cells and Dual Coupled Inductors

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A Robust Method for Controlling Grid-Connected Inverters in Weak Grids

Attack detection design for dc microgrid using eigenvalue assignment approach

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Linear Time-Periodic Modeling, Examination, and Performance Enhancement of Grid Synchronization Systems with DC Component Rejection/Estimation Capability
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Optimisation of solar/wind/bio-generator/diesel/battery based microgrids for rural areas: A PSO-GWO approach

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System-Level Large-Signal Stability Analysis of Droop-Controlled DC Microgrids

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A very short-term probabilistic prediction interval forecaster for reducing load uncertainty level in smart grids

A Microgrid Energy Management System Based on Non-Intrusive Load Monitoring via Multitask Learning

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Enhanced Current-Limiting Droop Controller for Grid-Connected Inverters to Guarantee Stability and Maximize Power Injection Under Grid Faults
Flatness-Based Decentralized Control of Bidirectional Interlink Power Converters in Grid-Connected Hybrid Microgrids Using Adaptive High-Gain PI-Observer
9 p., 9052664.

Guest Editorial: Stability and Robustness of Power Grids with High Penetration of Power Electronics

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Binary spring search algorithm for solving various optimization problems

Active resonance damping and harmonics compensation in distributed generation based islanded microgrids

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Nonlinear adaptive control design with average performance analysis for photovoltaic system based on half bridge shunt active power filter

Novel high voltage gain dc–dc converter with dynamic analysis

Passivity-Based Design of Repetitive Controller for LCL-Type Grid-Connected Inverters Suitable for Microgrid Applications

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Modular multilevel converter based multi-terminal hybrid AC/DC microgrid with improved energy control method

Fully integrated high gain s-band triangular slot antenna for cubesat communications

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An Accurate Physical Model for PV Modules with Improved Approximations of Series-Shunt Resistances

A new hybrid virtual synchronous machine control structure combined with voltage source converters in islanded ac microgrids

A new two-stage algorithm for solving optimization problems

A Novel Dynamic Appliance Clustering Scheme in a Community Home Energy Management System for Improved Stability and Resiliency of Microgrids

A Novel Features-Based Multivariate Gaussian Distribution Method for the Fraudulent Consumers Detection in the Power Utilities of Developing Countries

A novel modulation for Adaptive Control Issue-Based Optimization Techniques: Balloon Effect

A Robust Stability Approach for Current-Controlled Grid-Connected Inverters Using PCC Voltage Feedforward Method

A Short Review of Radiation-Induced Degradation of III-V Photovoltaic Cells for Space Applications

Comparative Study of Various Communication Technologies for Secondary Controllers in DC Microgrid
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Linear Quadratic Regulator based Smooth Transition between Microgrid Operation Modes

Microgrid Digital Twins: Concepts, Applications, and Future Trends

Offshore Wind Farm-Grid Integration: A Review on Infrastructure, Challenges, and Grid Solutions

Operation of the Microgrid with Improved Droop Control Strategy and an Effective Islanding Detection Technique for Automatic Mode Switching

Optimal Load and Energy Management of Aircraft Microgrids Using Multi-Objective Model Predictive Control

Optimized Design of Embedded Air Coil for Small Satellites with Various Dimensions

Pandemic Search Algorithm: A Metaheuristic Inspiration of COVID-19 Outbreak

Parallel and Distributed Optimization Method with Constraint Decomposition for Energy Management of Microgrids

Renewable Energy Integration in Intelligent Railway of China: Configurations, Applications and Issues

Resilient Design of Robust Multi-Objectives PID Controllers for Automatic Voltage Regulators: D-Decomposition Approach
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Robust PID-PSS Design for Stability Improvement of Grid-Tied HydroTurbine Generator

Smart Renewable Energy Communities - Existing and Future Prospects

State of Charge Balance of Distributed Batteries in DC Shipboard Microgrids

Voltage Unbalance Compensation in AC Microgrids

Principle of Flexible Ground-Fault Arc Suppression Device Based on Zero-Sequence Voltage Regulation

Scalable architecture of DC microgrid implemented with multi-input multi-output converter

First-order integral switching surface sliding-mode control method of active front end rectifier for fast charger applications

A Three-Level Control Strategy for Battery Energy Storage System to Mitigate Power fluctuations and Compensate Reactive Power of Distributed Generators in a Microgrid
Rajabinezhad, M. A. & Guerrero, J. M., 16 Dec 2020, 2020 10th Smart Grid Conference, SGC 2020. IEEE, 9335771. (Smart Grid Conference (SGC)).

Decentralized Primary and Distributed Secondary Control for Current Sharing and Voltage Regulation in DC Microgrid Clusters with HESS

Fuzzy-Based Power Management and Power Quality Improvement in Microgrid using Battery Energy Storage System

Integrated control and protection architecture for islanded PV-battery DC microgrids: Design, analysis and experimental verification

Genetic algorithm for energy commitment in a power system supplied by multiple energy carriers
An iterative adaptive virtual impedance loop for reactive power sharing in islanded meshed microgrids

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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Developing More Efficient Wind Turbines: A Survey of Control Challenges and Opportunities

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Stabilization of DC Nanogrids Based on Non-Integer General Type-II Fuzzy System

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Unified decentralised control for both grid-connected and islanded operation of cascaded-type microgrid

An IoT Platform-based Multi-objective Energy Management System for Residential Microgrids

A novel smart energy management as a service over a cloud computing platform for nanogrid appliances

A Virtual-Impedance Droop Control for Accurate Active Power Control and Reactive Power Sharing Using Capacitive-Coupling Inverters
A Decentralized Control Scheme for Adaptive Power-Sharing in Ships based Seaport Microgrid.

Closure to Discussion on 'Decentralized Optimal Frequency Control in Autonomous Microgrids'

DM: Dehghani method for modifying optimization algorithms

Dynamic Performance Assessment of NG-MVDC Shipboard Power System with Distributed Electric Propulsions

Optimal Value-based Prices Placement of DER and V2G using Planet Search Algorithm

Power Management Strategy Based on Virtual Inertia for DC Microgrids

Real-time simulator and offline/online closed-loop test bed for power system modeling and development

Sustainable rural electrification through solar PV DC microgrids—An architecture-based assessment

Voltage Grid Supporting by Using Variable Structure Adaptive Virtual Impedance for LCL-Voltage Source Converter DG Converters

Efficient Resource Sizing and Placement for Clustered Solar DC Microgrids

Darts game optimizer: A new optimization technique based on darts game

Adaptive-SMC Based Output Impedance Shaping in DC Microgrids Affected by Inverter Loads

A hierarchical energy management system for islanded multi-microgrid clusters considering frequency security constraints
Analysis of Multilayered Power Module Packaging Behavior under Random Vibrations

Football game based optimization: An application to solve energy commitment problem

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Optimal use of vehicle-to-grid technology to modify the load profile of the distribution system

Energy management supervisory controller embedded-board for islanded hybrid AC/DC microgrids

Harmonics rejection capability enhancement of passive power filters for all-electric-shipboard micro-grids

Photovoltaic Power Plants in Electrical Distribution Networks: A Review on Their Impact and Solutions

Advanced Synchronization Control for Inverters Parallel Operation in Microgrids Using Coupled Hopf Oscillators

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A spring search algorithm applied to engineering optimization problems

Differential flatness for smooth transition between grid-connected and standalone mode of three-phase inverter
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Operation management for next-generation of MVDC shipboard microgrids

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Pinning-Based Hierarchical and Distributed Cooperative Control for AC Microgrid Clusters

Research on synchronverter-based regenerative braking energy feedback system of urban rail transit

Secondary-control-based harmonics compensation scheme for voltage- and current-controlled inverters in islanded microgrids

A novel frequency and voltage controller for parallel voltage source converters and synchronous generators coexisting in islanded microgrids
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Dynamic modeling of multiple microgrid clusters using regional demand response programs  

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New Inter- and Inner-Phase Power Control Method for Cascaded H-Bridge Based on Simplified PWM Strategy  

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Design and implementation of a dual-input single-output photovoltaic converter  

Energy Management Considering Unknown Dynamics Based on Extremum Seeking Control and Particle Swarm Optimization  

Optimal SSSC-based power damping inter-area oscillations using firefly and harmony search algorithms  

Performance improvement of the unbalanced voltage compensation in islanded microgrid based on small-signal analysis  

Stochastic Predictive Energy Management of Multi-Microgrid Systems  
Adaptive Reference Trajectory for Power Quality Enhancement in Three-Phase Four-Wire Standalone Power Supply Systems with Nonlinear and Unbalanced Loads

A Hybrid Compensator Configuration for VAR Control and Harmonic Suppression in All-Electric Shipboard Power Systems

Enhanced Intelligent Energy Management System for a Renewable Energy-based AC Microgrid

Generalization Capacity Analysis of Non-Intrusive Load Monitoring using Deep Learning

More in-depth analytical investigations of two Effective Harmonics Filters for More Electric Marine Vessel Applications

Multi-agent Control Strategy for Microgrids using Petri Nets

On the Secondary Control Architectures of AC Microgrids: An Overview

Operation Control for Improving Energy Efficiency of Shipboard Microgrid Including Bow Thrusters and Hybrid Energy Storages

Passivity-Based Stabilization of LCL-Type Grid-Connected Inverters via a General Admittance Model

Resilient and Cybersecure Distributed Control of Inverter-Based Islanded Microgrids

Review of dynamic positioning control in maritime microgrid systems

A Dual-input Multi-label Classification Approach for Non-Intrusive Load Monitoring via Deep Learning
An Adaptive Power Sharing Control for Management of DC Microgrids Powered by Fuel Cell and Storage System

Cascaded Multilevel PV Inverter with Improved Harmonic Performance During Power Imbalance Between Power Cells

Generalized Predictive Control applied to the DFIG power control using state-space model and voltage constraints

Mode-triggered droop method for the decentralized energy management of an islanded hybrid PV/hydrogen/battery DC microgrid
Han, Y., Yang, H., Li, Q., Chen, W., Zare, F. & Guerrero, J. M., May 2020, In: Energy. 199, 117441.

Novel high gain DC–DC converter based on coupled inductor and diode capacitor techniques with leakage inductance effects

Recent Developments and Challenges on AC Microgrids Fault Detection and Protection Systems–A Review

Seamless Transition of Microgrids Operation from Grid-Connected to Islanded Mode

A Hankel Matrix Based Reduced Order Model for Stability Analysis of Hybrid Power System Using PSO-GSA Optimized Cascade PI-PD Controller for Automatic Load Frequency Control

All-Pass-Filter-Based PLL Systems: Linear Modeling, Analysis, and Comparative Evaluation

Analysis of techno-economic-environmental suitability of an isolated microgrid system located in a remote island of Bangladesh

Coupling effect analysis and control for grid-connected multi-microgrid clusters

Optimal allocation for combined heat and power system with respect to maximum allowable capacity for reduced losses and improved voltage profile and reliability of microgrids considering loading condition

Optimal sizing of Battery Energy Storage Systems for dynamic frequency control in an islanded microgrid: A case study of Flinders Island, Australia
A Comprehensive Inertial Control Strategy for Hybrid AC/DC Microgrid with Distributed Generations


Analysis and optimization of hybrid modular multilevel converters under over-modulation conditions

An Efficient Interactive Framework for Improving Resilience of Power-Water Distribution Systems with Multiple Privately-Owned Microgrids

A Self-Sustained and Flexible Control Strategy for Islanded DC Nanogrids without Communication Links

A Two-layer Distributed Cooperative Control Method for Islanded Networked Microgrid Systems

Blockchain for power systems: Current trends and future applications

Energy management strategy considering multi-time-scale operational modes of batteries for the grid-connected microgrids community

IoT-enabled Microgrid for Intelligent Energy-aware Buildings: A Novel Hierarchical Self-consumption Scheme with Renewables

Is Using A Complex Control Gain in Three-phase FLLs Reasonable?

Modeling and Stability Analysis of Inverter-Based Microgrid under Harmonic Conditions

Real-Time Load and Ancillary Support for a Remote Island Power System Using Electric Boats

Self-directed Energy Management System for an Islanded Cube Satellite Nanogrid
Stochastic Risk-Constrained Scheduling of Renewable-Powered Autonomous Microgrids with Demand Response Actions: Reliability and Economic Implications

Decentralised non-linear I-V droop control to improve current sharing and voltage restoration in DCNG clusters

A multiphase-interleaved high step-up DC-DC boost converter with voltage multiplier and reduced voltage stress on semiconductors for renewable energy systems

Analysis and Control of Modular Multilevel Converter with Split Energy Storage for Railway Traction Power Conditioner

Improvement of Frequency Regulation in VSG-Based AC Microgrid via Adaptive Virtual Inertia

Nonlinear control and stability analysis of single stage grid-connected photovoltaic systems

Passivity-Based Design of Plug-and-Play Current-Controlled Grid-Connected Inverters

AC-Voltage Harmonic Control for Stand-Alone and Weak-Grid-Tied Converter

Multi-Objective Optimal Model Predictive Control for Three-Level ANPC Grid-Connected Inverter

Microgrids: Good practices and challenges in the projects in Colombia

A High Step-Up Interleaved DC-DC Converter with Voltage Multiplier and Coupled Inductors for Renewable Energy Systems
Harmonics Mitigation in Hybrid AC/DC Shipboard Microgrids Using Fixed Capacitor-Thyristor Controlled Reactors

HOGO: Hide Objects Game Optimization

Improving Short-Circuit Currents in DC Microgrids Using Coupled-Inductor Filters

Microgrid Energy Management System with Embedded Deep Learning Forecaster and Combined Optimizer

MPPT based sliding mode control for fuel cell connected grid system

Nonlinear control of multicellular single stage grid connected photovoltaic systems with shunt active power filtering capability

Nonlinear control of wind energy conversion system based on DFIG with a mechanical torque observer

Optimal Multi-Objective Integration of Photovoltaic, Wind Turbine, and Battery Energy Storage in Distribution Networks

Power sharing control strategy of parallel inverters in AC microgrid using improved reverse droop control

Reverse droop control-based smooth transfer strategy for interface converters in hybrid AC/DC distribution networks

Safe sub synchronous oscillations response for large DFIG-based wind farms

Shell game optimization: A novel game-based algorithm

Space Microgrids: New Concepts on Electric Power Systems for Satellites

AC Microgrid Small-Signal Modeling: Hierarchical Control Structure Challenges and Solutions
A control scheme for voltage unbalance compensation in an islanded microgrid

A Hybrid Power System Laboratory: Testing Electric and Hybrid Propulsion

Enhanced Power Management System for Droop Control in a Grid Connected DC Microgrid

Hybrid Energy Storage Systems for Voltage Stabilization in Shipboard Microgrids

Non-Ideal Proportional Resonant Control for Modular Multilevel Converters under Sub-Module Fault Conditions

Single-phase FLLs Based on Linear Kalman Filter, Limit-Cycle Oscillator, and Complex Band-pass Filter: Analysis and Comparison With a Standard FLL in Grid Applications

Single-phase frequency-locked loops: A comprehensive review

State observer based capacitor-voltage-balancing method for modular multilevel converters without arm-current sensors

A hybrid islanding detection technique for inverter-based distributed generator units

Energy Management System for an Islanded Microgrid with Convex Relaxation

Integration and Decentralized Control of Standalone Solar Home Systems for off-grid Community Applications

Stability analysis and robust damping of multiresonances in distributed-generation-based islanded microgrids

A novel compact dq-reference frame model for inverter-based microgrids
A power calculation algorithm for single-phase droop-operated-inverters considering linear and nonlinear loads HIL-assessed

A Stochastic Bi-Level Decision-Making Framework for a Load-Serving Entity in Day-Ahead and Balancing Markets

Energy scheduling of community microgrid with battery cost using particle swarm optimisation

Finite-Gain Repetitive Controller for Harmonic Sharing Improvement in a VSM Microgrid

Microgrids literature review through a layers structure

Multirate Resonant Controllers for Grid-Connected Inverters with Harmonic Compensation Function

Operation Planning of Standalone Maritime Power Systems Using Particle Swarm Optimization

Overload and short-circuit protection strategy for voltage source inverter-based UPS

Parameter Stability Region Analysis of Islanded Microgrid Based on Bifurcation Theory

Performance Assessment of the RTDS/RSCAD VSC model

Investigation of Nonlinear Droop Control in DC Power Distribution Systems: Load Sharing, Voltage Regulation, Efficiency, and Stability

Modulated Model Predictive Control for Modular Multilevel AC/AC Converter

A Dual-Discrete Model Predictive Control-based MPPT for PV systems
An Evaluation Method for Voltage Dips in a Shipboard Microgrid under Quasi-balanced and Unbalanced Voltage Conditions

Coordinated Primary and Secondary Frequency Support between Microgrid and Weak Grid

Large Photovoltaic Power Plants Integration: A Review of Challenges and Solutions

Microgrid Transactive Energy Systems: A Perspective on Design, Technologies, and Energy Markets

Model Predictive Control of Bidirectional DC-DC Converters and AC/DC Interlinking Converters - A New Control Method for PV-Wind-Battery Microgrids

Regulatory-framework-embedded energy management system for microgrids: The case study of the Spanish self-consumption scheme

Stability Improvement of Converter-side Current Controlled Grid-Connected Inverters

Wind Distributed System Based on Switched Reluctance Generator Using a Bidirectional DC-DC Converter with Sliding Mode Control

Control of Hybrid Diesel/PV/Battery/Ultra-Capacitor Systems for Future Shipboard Microgrids

Stochastic Predictive Control of Multi-Microgrid Systems

A GaN-Based Active Power Decoupling Approach for Enhancing the Efficiency and Reliability of Residential PV Microinverters

An enhanced power decoupling control for grid-connected capacitive-coupling inverters
A New Adaptive Virtual Impedance based Fault Current Limiter for Converters

Bumpless optimal control over multi-objective microgrids with mode-dependent controllers

Control method for three-phase grid-connected inverter PV system employing unity power factor (UPF) strategy in microgrid

Coordinated Control of a Hybrid-Electric-Ferry Shipboard Microgrid

Design of Space Microgrid for Manned Lunar Base: Spinning-In Terrestrial Technologies

Double Deadbeat Plus Repetitive Control Scheme for Microgrid System

Dual-loop control strategy applied to the cluster of multiple nanogrids for rural electrification applications

Microgrid Optimal Energy and Reserve Scheduling Considering Frequency Constraints

Modelling and vulnerability analysis of cyber-physical power systems based on interdependent networks

Model Predictive Control of Cascaded Multilevel Battery Assisted Quasi Z-Source PV Inverter with Reduced Computational Effort

Open IoT Infrastructures for In-Home Energy Management and Control

Stability Analysis Considering Dual Physical Constraints of Parallel-connected Virtual Synchronous Generators forming Microgrids

Stochastic Consensus-based Control of μGs with Communication Delays and Noises
Synchronization and Current Sharing for Nonlinear Oscillator-based Inverters in Islanded Three-phase Microgrid


Voltage Quality Improvement in Low Voltage Distribution Networks Using Reactive Power Capability of Single-Phase PV Inverters


A Laboratory Set-Up for Real-Time Power System Simulation using LabVIEW and NI PXI Hardware


A reactive power-voltage control strategy of an AC microgrid based on adaptive virtual impedance


Compromised Controller Design for Current Sharing and Voltage Regulation in DC Microgrid


Direct Matrix Converter Topologies with Model Predictive Current Control Applied as Power Interfaces in AC, DC, and Hybrid Microgrids in Isolated and Grid-Connected Modes


Experiments on a Real-Time Energy Management System for Islanded Prosumer Microgrids


Fault-tolerant Oriented Hierarchical Control and Configuration of Modular Multilevel Converter for Shipboard MVDC System


Happiness is a Hybrid-Electric: A Diesel-Burning Boat Finds New Life with a Direct-Current Microgrid


Optimal Operation of Energy Storage System for a Prosumer Microgrid Considering Economical and Environmental Effects


Producing Bio-Electricity and Bio-Heat from Urban Sewage Sludge in Turkey Using a Two-Stage Process


A Novel Dynamic Aggregation Modeling Method of Grid-Connected Inverters: Application in Small-Signal Analysis


Mode-dependent seamless transfer control strategy of a microgrid via a small-signal stability approach

Adaptive CDSC-Based open-loop synchronization technique for dynamic response enhancement of active power filters

A Hierarchical Energy Management Strategy for Interconnected Microgrids Considering Uncertainty

Distributed Average Integral Secondary Control for Modular UPS Systems based Microgrids

Distributed noise-resilient economic dispatch strategy for islanded microgrids

Distributed Noise-resilient Secondary Voltage and Frequency Control for Islanded Microgrids

Dual–loop Control Strategy applied to PV/battery based Islanded DC microgrids for Swarm Electrification of Developing Regions

Dynamic Equivalent Modeling for Multi-Microgrid Based on Structure Preservation Method

Energy Harvesting from Harbor Cranes with Flywheel Energy Storage Systems

Hybrid Machine Intelligent SVR Variants for Wind Forecasting and Ramp Events

Resilience Improvement Planning of Power-Water Distribution Systems with Multiple Microgrids Against Hurricanes Using Clean Strategies

An Efficient Decision-Making Approach for Optimal Energy Management of Microgrids

Battery Energy Storage Systems for Mitigating Fluctuations Caused by Pulse Loads and Propulsion Motors in Shipboard Microgrids

DAVIC: A New Distributed Adaptive Virtual Impedance Control for Parallel-Connected Voltage Source Inverters in Modular UPS System
Distributed Control of Low-Voltage Resistive AC Microgrids

Harmonics Mitigation in Cascaded Multilevel PV Inverters During Power Imbalance Between Cells

Modeling and Tuning of Adaptive Complex Current Controller for Three-Phase Grid-Interfaced Power Converters

Modified Secondary-Control-Based Fault Current Limiter for Inverters

Multi-Mode Operation for On-line Uninterruptible Power Supply System

Optimal Operation of an Energy Hub in the Presence of Uncertainties

An Effective Solution for Regeneration Protection in Uninterruptible Power Supply

An optimized direct control method applied to multilevel inverter for microgrid power quality enhancement
Decentralized optimal frequency control in autonomous microgrids

Distributed Strategy for Optimal Dispatch of Unbalanced Three-Phase Islanded Microgrids

Dynamic Pricing for Microgrids Energy Transaction in Blockchain-based Ecosystem

Stability Analysis of Primary Plug-and-Play and Secondary Leader-based Controllers for DC Microgrid Clusters

VICINITY platform-based load scheduling method by considering smart parking and smart appliance

Virtual Positive-Damping Reshaped Impedance Stability Control Method for the Offshore MVDC System

Advanced Single-Phase DSC-Based PLLs

A Cost-Effective and Low-Complexity Predictive Control for Matrix Converters under Unbalanced Grid Voltage Conditions

Analysis and Comparison of Notch Filter and Capacitor Voltage Feedforward Active Damping Techniques for LCL Grid-Connected Converters

Distributed coordination control for suppressing circulating current in parallel inverters of islanded microgrid

Fault location in microgrids: A communication-based high-frequency impedance approach

Transient Response Analysis of Inverter-based Microgrids under Unbalanced Conditions using Dynamic Phasor Model

An Optimal Market-Oriented Demand Response Model for Price-Responsive Residential Consumers
Adaptive protection combined with machine learning for microgrids

A Decentralized Robust Model for Optimal Operation of Distribution Companies with Private Microgrids

A New Tuning Method of Multi-Resonant Current Controllers for Grid-Connected Voltage Source Converters

A novel Decoupled Trigonometric Saturated droop controller for power sharing in islanded low-voltage microgrids

A Novel Model Predictive Control Strategy to Eliminate Zero-Sequence Circulating Current in Paralleled Three-Level Inverters

A robust design strategy for resonant controllers tuned beyond the LCL filter resonance frequency

Distributed Secondary Control and Management of Islanded Microgrids via Dynamic Weights

Guest Editorial Special Section on Energy Internet

Multiple second-order generalized integrators based comb filter for fast selective harmonic extraction

Performance assessment of shooting methods using parallel cloud computing

Real-Time Supervisory Control for Power Quality Improvement of Multi-Area Microgrids

Review on microgrids protection

Smart Inverters for Microgrid Applications: A Review
Direct harmonic voltage control strategy of shunt active power filters suitable for microgrid applications

Power Quality Assessment in Shipboard Microgrids under Unbalanced and Harmonic AC Bus Voltage

Power quality issues of smart microgrids: Applied techniques and decision making analysis

A communication-free economical-sharing scheme for cascaded-type microgrids

A Consensus-Based Cooperative Control of PEV Battery and PV Active Power Curtailment for Voltage Regulation in Distribution Networks

A coordinated control of hybrid ac/dc microgrids with PV-wind-battery under variable generation and load conditions

Control design, stability analysis and experimental validation of new application of an interleaved converter operating as a power interface in hybrid microgrids

Design and analysis of a transformerless STATCOM based on hybrid cascaded multilevel converter

Dynamic Characteristics Analysis and Stabilization of PV-Based Multiple Microgrid Clusters

Extended-Optimal-Power-Flow-Based Hierarchical Control for Islanded AC Microgrids

Harmonic Current Suppression Strategy for Grid-Connected PWM Converters with LCL Filters

Modeling and Stability Assessment of Single-Phase Grid Synchronization Techniques: Linear Time-Periodic versus Linear Time-Invariant Frameworks

Optimal simultaneous day-ahead scheduling and hourly reconfiguration of distribution systems considering responsive loads
Output Feedback Sliding Mode Control of PEM EL-IBC System for Hydrogen Production

PQ Theory-Based Control of Single-Stage V2G Three-Phase BEV Charger for High-Voltage Battery

Sequence-Impedance-Based Stability Comparison between VSGs and Traditional Grid-Connected Inverters

Small-Signal Stability Analysis and Optimal Parameters Design of Microgrid Clusters

Active Reconfigurable Operation with Long Short-Term Memory Prediction for Smart City Microgrids

Delay-Dependent Small-Signal Stability Analysis and Compensation Method for Distributed Secondary Control of Microgrids

Effective and low-cost passive compensator system to improve the power quality of two electric generators

Modeling and stability analysis of LCL-type grid-connected inverters: A comprehensive overview

New Design of PI Regulator Circuit Based on Three-Terminal Memristors

Optimal Probabilistic Planning of Passive Harmonic Filters in Distribution Networks with High Penetration of Photovoltaic Generation

Steady-State Linear Kalman Filter-based PLLs for Power Applications: A Second Look

A Distributed Control Strategy for Islanded Single-Phase Microgrids with Hybrid Energy Storage Systems Based on Power Line Signaling

A Flexible Power Control Strategy for Hybrid AC/DC Zones of Shipboard Power System with Distributed Energy Storages
Cooperation of voltage controlled active power filter with grid-connected DGs in microgrid

Dynamic Assessment of COTS Converters-based DC Integrated Power Systems in Electric Ships

Elimination of zero sequence circulating currents in paralleled three-level T-type inverters with a model predictive control strategy

Energy Management of CHP-Based Microgrid with Thermal Storage for Reducing Wind Curtailment

Energy Management Strategy for Grid-tied Microgrids considering the Energy Storage Efficiency

Energy Storage Systems for Shipboard Microgrids: A Review

Modeling, Tuning, and Performance Comparison of Second-Order-Generalized-Integrator-based FLLs

Optimal Operational Scheduling of Smart Microgrids Considering Hourly Reconfiguration

Optimal Scheduling and Economic Analysis of Hybrid Electric Vehicles in a Microgrid

Power Quality Enhancement and Power Management of a Multi-Functional Interfacing Inverter for PV and Battery Energy Storage System

Robust Grid-Current-Feedback Resonance Suppression Method for LCL-Type Grid-Connected Inverter Connected to Weak Grid

Scalable Solar dc Microgrids: On the Path to Revolutionizing the Electrification Architecture of Developing Communities

Triangle Carrier-Based DPWM for Three-Level NPC Inverters
提高船舶微电网艏侧推进器运行能效的控制策略

Full Discrete Modeling, Controller Design and Sensitivity Analysis for High Performance Grid-Forming Converters in Islanded Microgrids

A Model Predictive Control for Renewable Energy Based AC Microgrids without Any PID Regulators

Autonomous Control of Current- and Voltage-Controlled DG Interface Inverters for Reactive Power Sharing and Harmonics Compensation in Islanded Microgrids

Distributed Hierarchical Control of AC Microgrid Operating in Grid-Connected, Islanded and Their Transition Modes

Passivity-based coordinated control for islanded AC microgrid

Optimal Passive Filter Planning in Distribution Networks with Nonlinear Loads and Photovoltaic Systems

A Deviation Elimination Control Based on Autonomous Current-Sharing Controller for the Parallel-Connected Inverters in AC Microgrids

A Synchronous-Reference-Frame I-V Droop Control Method for Parallel-Connected Inverters

Integrated Expansion Planning of Gas-Electricity System: A Case Study in Iran

A Decentralized Model for Coordinated Operation of Distribution Network and EV Aggregators

Optimal Overcurrent Relay Coordination in Presence of Inverter-based Wind Farms and Electrical Energy Storage Devices
Scheduling of Power Generation in Hybrid Shipboard Microgrids with Energy Storage Systems

Stochastic Predictive Control of Multi-Microgrid Systems

A comprehensive control system for multi-parallel grid-connected inverters with LCL filter in weak grid condition

A Direct Maximum Power Point Tracking Method for Single-Phase Grid-Connected PV Inverters

A hierarchical multiagent-based protection structure for meshed microgrids

A novel compensation current control method for grid-connected PV inverter to improve power quality in micro-grid

An overview of power quality enhancement techniques applied to distributed generation in electrical distribution networks

A Reduced-Order Enhanced State Observer Control of DC-DC Buck Converter

A reduced-switching-frequency modulation method for hybrid MMCs under over-modulation conditions

A Voltage Modulated DPC Approach for Three-Phase PWM Rectifier

Energy and Frequency Hierarchical Management System Using Information Gap Decision Theory for Islanded Microgrids

Improved Direct Power Control for Grid-Connected Voltage Source Converters
Modeling and Experimental Validation of an Islanded No-Inertia Microgrid Site

Modeling of complex resonances in islanded Microgrids

Research On Variable-Length Transfer Delay and Delayed-Signal-Cancellation-Based PLLs

Smart transactive energy framework in grid-connected multiple home microgrids under independent and coalition operations

Optimal placement, sizing, and daily charge/discharge of battery energy storage in low voltage distribution network with high photovoltaic penetration

Power management optimization of hybrid power systems in electric ferries

Optimal Decision-Making Strategy of an Electric Vehicle Aggregator in Short-Term Electricity Markets

A Dynamic Consensus Algorithm to Adjust Virtual Impedance Loops for Discharge Rate Balancing of AC Microgrid Energy Storage Units

A microgrid cluster structure and its autonomous coordination control strategy

Distributed Coordination of Islanded Microgrid Clusters Using a Two-layer Intermittent Communication Network

Secondary restoration control of islanded microgrids with a decentralized event-triggered strategy

A Multi-Attribute Expansion Planning Model for Integrated Gas–Electricity System

An Alternative Realization of Droop Control and Virtual Impedance for Parallelled Converters in DC Microgrid
Analysis of Washout Filter-Based Power Sharing Strategy - An Equivalent Secondary Controller for Islanded Microgrid without LBC Lines

A New Communication-less Harmonic-based Protection Architecture for Meshed Microgrids

A Novel Grid-connected Harmonic Current Suppression Control for Autonomous Current Sharing Controller-based AC Microgrids

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Adaptive synchronization of grid-connected three-phase inverters by using virtual oscillator control

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A Circulating Current Suppression Method for Parallel Connected Voltage-Source-Inverters (VSI) with Common DC and AC Buses

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Analysis and distributed control of power flow in DC microgrids to improve system efficiency

Analysis and Improvement of the Energy Management of an Isolated Microgrid in Lencois Island based on a Linear Optimization Approach

Analysis, Design and Implementation of a Quasi-Proportional-Resonant Controller for a Multifunctional Capacitive-Coupling Grid-Connected Inverter

An Embedded Voltage Harmonic Compensation Strategy for Current Controlled DG Interfacing Converters

An Enhanced Power Sharing Scheme for Voltage unbalance and harmonics compensation in an islanded AC microgrid

A Repetitive Control Scheme Aimed at Compensating the 6k + 1 Harmonics for a Three-Phase Hybrid Active Filter

A Riding-through Technique for Seamless Transition between Islanded and Grid-Connected Modes of Droop-Controlled Inverters

A Root-Locus Design Methodology Derived from the Impedance Stability Criterion and Its Application for LCL Grid-Connected Converters

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Macro Protections for Micro Grids: Toward a New Protection Paradigm Subsequent to Distributed Energy Resource Integration

Marginal Generation Technology in the Chinese Power Market towards 2030 Based on Consequential Life Cycle Assessment

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A Coordinated Control for Photovoltaic Generators and Energy Storages in Low-Voltage AC/DC Hybrid Microgrids under Islanded Mode

Capacitor Current Feedback-Based Active Resonance Damping Strategies for Digitally-Controlled Inductive-Capacitive-Inductive-Filtered Grid-Connected Inverters

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Multiobjective Optimization in Combinatorial Wind Farms System Integration and Resistive SFCL Using Analytical Hierarchy Process

Multiple-Time-Scales Hierarchical Frequency Stability Control Strategy of Medium-Voltage Isolated Microgrid

Microgrid supervisory controllers and energy management systems: A literature review

A control architecture to coordinate distributed generators and active power filters coexisting in a microgrid

A Feed-Forward Control Realizing Fast Response for Three-Branch Interleaved DC-DC Converter in DC Microgrid
Wang, H., Han, M., Yan, W., Zhao, G. & Guerrero, J. M., Jul 2016, In: Energies. 9, 7, 12 p., 529.

A knowledge discovery in databases approach for industrial microgrid planning
Control Architecture for Parallel-Connected Inverters in Uninterruptible Power Systems

Coordinated Demand Response and Distributed Generation Management in Residential Smart Microgrids

Distributed adaptive droop control for DC distribution systems

Evaluation of the hierarchical control of distributed Energy Storage Systems in islanded Microgrids based on Std IEC/ISO 62264

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Distributed Smart Decision-Making for a Multimicrogrid System Based on a Hierarchical Interactive Architecture

Improved grid operation through power smoothing control strategies utilizing dedicated energy storage at an electric vehicle charging station

Modular Online Uninterruptible Power System Plug’n’Play Control and Stability Analysis
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A GPS-Based Control Method for Load Sharing and Power Quality Improvement in Microgrids

Comparative Performance Evaluation of Orthogonal-Signal-Generators-Based Single-Phase PLL Algorithms: A Survey

Comparison of a Synchronous Reference Frame Virtual Impedance-Based Autonomous Current Sharing Control with Conventional Droop Control for Parallel-Connected Inverters

Control architecture for paralleled current-source-inverter (CSI) based uninterruptible power systems (UPS)

Control strategy of interlinking converters as the key segment of hybrid AC–DC microgrids

Coordinated Control for Flywheel Energy Storage Matrix Systems for Wind Farm Based on Charging/Discharging Ratio Consensus Algorithms
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Modeling and Sensitivity Study of Consensus Algorithm-Based Distributed Hierarchical Control for DC Microgrids

Modular Plug’n’Play Control Architectures for Three-Phase Inverters in UPS Applications

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Resonance Damping and Parameter Design Method for LCL-LC Filter Interfaced Grid-Connected Photovoltaic Inverters

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The Frequency Fluctuation Impact Analysis for Droop Controlled Grid-connecting Inverter in Microgrid

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Effects and Analysis of Minimum Pulse Width Limitation on Adaptive DC Voltage Control of Grid Converters

Flexible System Integration and Advanced Hierarchical Control Architectures in the Microgrid Research Laboratory of Aalborg University

Inrush Transient Current Analysis and Suppression of Photovoltaic Grid-Connected Inverters During Voltage Sag

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Leakage Current Elimination of Four-Leg Inverter for Transformerless Three-Phase PV Systems

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Single phase cascaded H5 inverter with leakage current elimination for transformerless photovoltaic system

An Efficient Implementation of Generalized Delayed Signal Cancellation PLL

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Method for Load Sharing and Power Management in a Hybrid PV/Battery Source Islanded Microgrid

Voltage Unbalance and Harmonic Compensation in Microgrids by Cooperation of Distributed Generators and Active Power Filters

三相LCL 型并网逆变器控制策略与稳定性分析
Shen, P., Han, Y. & Guerrero, J. M., Feb 2016, In: Dianli Dianzi Jishu. 50, 2, p. 66-68
Optimization design of DC micro-grid stability controller based on the autonomous decentralized system

Assessing the Potential of Plug-in Electric Vehicles in Active Distribution Networks

Cooperative Management for a Cluster of Residential Prosumers

Development and Integration of a HEMS with an Advanced Smart Metering Infrastructure

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Distributed voltage control and load sharing for inverter-interfaced microgrid with resistive lines

Fault Ride Though Control of Photovoltaic Grid-connected Inverter with Current-limited Capability under Offshore Unbalanced Voltage Conditions

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Zonal protection of DC swarm microgrids using a novel multi-terminal grid interface with decentralized control
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Dynamic Stability Analysis of Autonomous Medium-Voltage Mixed-Source Microgrid

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Load Shifting Control and Management of Domestic Microgeneration Systems for Improved Energy Efficiency and Comfort

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Secondary Frequency and Voltage Control of Islanded Microgrids via Distributed Averaging

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Stability Enhancement Based on Virtual Impedance for DC Microgrids with Constant Power Loads

Tertiary and secondary control levels for efficiency optimization and system damping in droop controlled dc-dc converters

考虑电池储能系统荷电状态的有功功率协调控制

Harmonic Analysis and Active Filtering in Offshore Wind Power Plants: R. Teodorescu, C. L. Bak, (Aalborg University, Denmark), Ł. Kocewiak (DONG Energy, Denmark) C. F. Jensen (Energinet.dk, Denmark)

Hybrid Three-Phase/Single-Phase Microgrid Architecture with Power Management Capabilities

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Computational optimization techniques applied to microgrids planning: a review

Tuning of Synchronous-Frame PI Current Controllers in Grid-Connected Converters Operating at a Low Sampling Rate by MIMO Root Locus

A flexible five-level cascaded H-bridge inverter for photovoltaic grid-connected systems

A Cell-to-Cell Battery Equalizer With Zero-Current Switching and Zero-Voltage Gap Based on Quasi-Resonant LC Converter and Boost Converter

Adaptive Virtual Impedance Scheme for Selective Compensation of Voltage Unbalance and Harmonics in Microgrids

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Dynamics Assessment of Grid-Synchronization Algorithms for Single-Phase Grid-Connected Converters

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Phase-lock loop of Grid-connected Voltage Source Converter under non-ideal grid condition
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A Control Architecture to Coordinate Renewable Energy Sources and Energy Storage Systems in Islanded Microgrids

Voltage and frequency control of wind-powered islanded microgrids based on induction generator and STATCOM

A Survey on Control of Electric Power Distributed Generation Systems for Microgrid Applications

Flexible Control Strategy for Grid-Connected Inverter under Unbalanced Grid Faults without PLL

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Droop-free Team-oriented Control for AC Distribution Systems

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Improved Droop Control Strategy for Grid-Connected Inverters
Microgrid Central Controller Development and Hierarchical Control Implementation in the Intelligent MicroGrid Lab of Aalborg University

Microgrid Stability Controller Based on Adaptive Robust Total SMC

Modeling and sensitivity analysis of consensus algorithm based distributed hierarchical control for dc microgrids

Multi-Agent-Based Distributed State of Charge Balancing Control for Distributed Energy Storage Units in AC Microgrids

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Distributed Bus Signaling Control for a DC Charging Station with Multi Paralleled Flywheel Energy Storage System

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Leakage Current Suppression with A Novel Six-Switch Photovoltaic Grid-Connected Inverter
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Faroe Islands Wind-Powered Space Heating Microgrid Using Self-Excited 220 kW Induction Generator

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Three-Phase Grid-Connected of Photovoltaic Generator Using Nonlinear Control

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Frequency Stability of Hierarchically Controlled Hybrid Photovoltaic-Battery-Hydropower Microgrids

Generic inertia emulation controller for multi-terminal voltage-source-converter high voltage direct current systems

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Modeling and Nonlinear Control of Fuel Cell / Supercapacitor Hybrid Energy Storage System for Electric Vehicles

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Autonomous Control of Distributed Generation and Storage to Coordinate P/Q Sharing in Islanded Microgrids: An Approach beyond Droop Control

Dynamic Consensus Algorithm Based Distributed Global Efficiency Optimization of a Droop Controlled DC Microgrid

Fundamental impedance identification method for grid-connected voltage source inverters

Mas Roig Mini-Grid: A Renewable-Energy-Based Rural Islanded Microgrid

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Reactive Power Sharing and Voltage Harmonic Distortion Compensation of Droop Controlled Single Phase Islanded Microgrids

Resonance Damping Techniques for Grid-Connected Voltage Source Converters with LCL filters – A Review

Review of Aircraft Electric Power Systems and Architectures

Voltage Scheduling Droop Control for State-of-Charge Balance of Distributed Energy Storage in DC Microgrids

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Advanced LVDC Electrical Power Architectures and Microgrids: A Step toward a New Generation of Power Distribution Networks
Asymmetrical Grid Fault Ride-Through Strategy of Three-phase Grid-connected Inverter Considering Network Impedance Impact in Low Voltage Grid

Autonomous Active and Reactive Power Distribution Strategy in Islanded Microgrids

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Hierarchical Control of Parallel AC-DC Converter Interfaces for Hybrid Microgrids

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Control and Analysis of Droop and Reverse Droop Controllers for Distributed Generations

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

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Dynamic-Phasor-Based Nonlinear Modelling of AC Islanded Microgrids Under Droop Control

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Analysis, Design, and Experimental Verification of A Synchronous Reference Frame Voltage Control for Single-Phase Inverters

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A Rolling Horizon Rescheduling Strategy for Flexible Energy in a Microgrid

Co-design of the LCL Filter and Control for Grid-Connected Inverters

Distributed Consensus-Based Control of Multiple DC-Microgrids Clusters

Hierarchical Coordinated Control of Distributed Generators and Active Power Filters to Enhance Power Quality of Microgrids

Hybrid islanding detection method by using grid impedance estimation in parallel-inverters-based microgrid

Microgrids in Active Network Management-Part I: Hierarchical Control, Energy Storage, Virtual Power Plants, and Market Participation
Moving Average Filter-Based Phase-Locked Loops: Performance Analysis and Design Guidelines

Team-oriented Adaptive Droop Control for Autonomous AC Microgrids

Tracking Controller for Intrinsic Output Saturated Systems in Presence of Amplitude and Rate Input Saturations

A generic Inertia Emulation Controller for Multi-Terminal VSC-HVDC systems

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

Microgrids: Hierarchical Control and an Overview of the Control and Reserve Management Strategies

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An Islanding Microgrid Power Sharing Approach Using Enhanced Virtual Impedance Control Scheme

Single-Carrier Modulation for Neutral-Point-Clamped Inverters in Three-Phase Transformerless Photovoltaic Systems

Stability, Power Sharing, & Distributed Secondary Control in Droop-Controlled Microgrids

Small-signal modeling of digitally controlled grid-connected inverters with LCL filters
Erratum to Highly efficient distributed generation and high-capacity energy storage
Hemmes, K., Guerrero, J. M. & Zhelev, T., 1 Aug 2013, In: Chemical Engineering and Processing. 70, p. 18-31

Supervisory Control for Real Time Reactive Power Flow Optimization in Islanded Microgrids

适用于交直流混合微电网的直流分层控制系统

Advanced Control Architectures for Intelligent Microgrids—Part II: Power Quality, Energy Storage, and AC/DC Microgrids

Distributed Control to Ensure Proportional Load Sharing and Improve Voltage Regulation in Low-Voltage DC Microgrids

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孤岛运行交流微电网中分布式储能系统改进下垂控制方法
Lu, X., Sun, K., Huang, L., Xiao, X. & Guerrero, J. M., Jan 2013, In: Dianli Xitong Zidonghua. 37, 1

Adaptive sliding mode control of interleaved parallel boost converter for fuel cell energy generation system

Advanced Control Architectures for Intelligent MicroGrids, Part I: Decentralized and Hierarchical Control

A generic inertia emulation controller for multi-terminal VSC-HVDC systems

Analysis, design, and experimental evaluation of power calculation in digital droop-controlled parallel microgrid inverters

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

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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

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Distributed Cooperative Secondary Control of Microgrids Using Feedback Linearization

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

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Industrial applications of the Kalman filter: a review

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

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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

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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

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Improving the voltage quality of an inverter via by-passing the harmonic current components
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Multilayer Control for Inverters in Parallel Operation without Intercommunications

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

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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

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

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A centralized control architecture for harmonic voltage suppression in islanded microgrids

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Hierarchical Control Scheme for Voltage Unbalance Compensation in Islanded Microgrids

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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

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

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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
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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

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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

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

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

Feedback linearization control with average current sharing for multiphase synchronous buck converter
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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 using 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 Vejrums Wæhrens, Josep M. Guerrero, Kirsten Gram-Hanssen, Morten Mattrup Smedskjær, Zhe Chen, Lasse Rosendahl & Katja Hose
21/06/2021
1 item of Media coverage
55 danske forskere er blandt verdens mest citerede
Frede Blaabjerg, Josep M. Guerrero, Henrik Lund, Brian Vad Mathiesen, Per Halkjær Nielsen, Xiongfei Wang & Juan C. Vasquez
29/11/2021
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.
01/04/2014 → 31/03/2016

A Digital Twin framework in Microgrids including Renewable Generation and Energy Storage
Safavi, V., Guerrero, J. M., Vasquez, J. C. & Bazmohammadi, N.
01/08/2021 → 31/07/2024

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.
EU - Horizon 2020
01/05/2019 → 30/04/2021

Analysis and Optimization of VSG Stability in Microgrids under Large-Signal Disturbances
Jiang, B., Guerrero, J. M. & Vasquez, J. C.
01/04/2021 → 31/03/2024

Artificial Intelligence based Adaptive Harmonic Suppression Method for VSG in Offshore Wind Power Plants
Li, S., Guerrero, J. M. & Vasquez, J. C.
01/04/2021 → 31/03/2024

DiCyPS: Center for Data-Intensive Cyber-Physical Systems
Innovation Fund Denmark
01/01/2015 → 31/12/2020

CROM: Center for Research on Microgrids
Guerrero, J. M., Vasquez, J. C., Tinajero, G. D. A., Akhavan, A. & Guldbæk, B. K.
Villum Fonden
01/08/2019 → 31/07/2025

MMGrid: Control and Management of Multi-Microgrid Clusters in Taiwan
Guerrero, J. M., Dragicevic, T., Vasquez, J. C. & Wu, D.
01/01/2013 → 31/12/2013

Control Strategies of Power Electronic Converters for MVDC Shipboard Microgrids
Xu, L., Guerrero, J. M. & Vasquez, J. C.
15/02/2019 → 14/02/2022

Cyber Security based Distributed Control for DC Microgrids and Multiple Microgrids Clusters
Tan, S., Guerrero, J. M. & Vasquez, J. C.
15/12/2018 → 14/12/2021

SALICRU: DC Voltage Railways Catenary - DCVOLTA
Guerrero, J. M., Vasquez, J. C., Barrios Flores, M. A. & Guldbæk, B. K.
Salicru S.A.
Decentralized Adaptive Protection Schemes in Micro Grid Clusters
De La Cruz, J., Guerrero, J. M. & Vasquez, J. C.
01/11/2021 → 31/10/2024

Design, Control, and Power Management of Small Satellite Microgrids
Yaqoob, M., Guerrero, J. M. & Vasquez, J. C.
01/03/2019 → 28/02/2022

Distributed Converter And MicroGrid Advanced Control Algorithm Project
Guerrero, J. M. & Guldbæk, B. K.
Huawei Technologies Co., Ltd.
25/09/2018 → 31/05/2020

Efficiensea
Guerrero, J. M., Dragicevic, T., Meng, L., Vasquez, J. C. & Miltersen, A. H.
Innovation Fund Denmark
16/03/2015 → 15/03/2018

Energy Management System in Shipboard Microgrid
Othman, M. B., Anvari-Moghaddam, A. & Guerrero, J. M.
20/04/2016 → 01/05/2019

Energy Management Systems based on Internet of Things/ Energy Internet for Smart Homes
Zavar, B. A., Guerrero, J. M. & Vasquez, J. C.
01/10/2018 → 30/09/2021

Flexible electric vehicle charging infrastructure (Flex-ChEV)
01/03/2014 → 29/02/2016

FPGA-based Protection System for Renewable Energy Sources Integrated Microgrids
Wu, J., Guerrero, J. M. & Vasquez, J. C.
15/02/2021 → 14/02/2024

Future Residential LVDC Power Distribution Architectures
Vasquez, J. C. & Guerrero, J. M.
01/01/2014 → 31/12/2014

HeatReFlex: Green and Flexible District Heating/Cooling
Anvari-Moghaddam, A., Guerrero, J. M., Nami, H. & Mohammadiivatloo, B.
Danida Fellowship Centre
01/05/2019 → 30/04/2022

Harmonic Control Architectures for Virtual Synchronous Generator-based Distributed Generation Systems
Li, S., Guerrero, J. M. & Vasquez, J. C.
01/04/2021 → 31/03/2024

iDClab: Intelligent DC Microgrid Living Lab
Guerrero, J. M., Vasquez, J. C., Diaz, E. R. & Golestan, S.
Det Strategiske Forskningsråd
01/01/2014 → 31/12/2017
DiCyPS: IT-Infrastructures for Control, Optimization and Management in Energy Systems
Guerrero, J. M., Anvari-Moghaddam, A., Vasquez, J. C., Bak-Jensen, B. & Guldbæk, B. K.
Innovation Fund Denmark
01/01/2015 → 31/12/2020

Large-Scale Integration of Renewable Energy Power Plants and Flexible Demand in the Egyptian Electric Grid
Abubakr Hussein Ali, H., Guerrero, J. M. & Vasquez, J. C.
01/04/2021 → 31/03/2024

MICROGRID TECHNOLOGIES FOR FUTURE OFFSHORE WIND POWER PLANTS
Yu, Y., Guerrero, J. M. & Vasquez, J. C.
01/02/2020 → 31/01/2023

Microgrid Technologies for Remote and Island Communities under Natural Disasters
Ali, M., Guerrero, J. M., Vasquez, J. C. & Guan, Y.
01/01/2022 → 31/12/2024

TECH-IN: Microgrid Technologies for Remote Indonesian Islands
Vasquez, J. C., Guan, Y., Vasquez, J. C., Guerrero, J. M. & Guldbæk, B. K.
Danida Fellowship Centre
01/05/2021 → 30/04/2022

MeTER_Demo: Microgrid Technology Research and Demonstration
Guerrero, J. M., Wu, D., Guan, Y., Vasquez, J. C. & Savaghebi, M.
01/04/2014 → 31/03/2017

HyMG: Microgrid technology research based on wind/PV/storage hybrid system
Guerrero, J. M., Vasquez, J. C. & Wu, D.
01/01/2013 → 31/12/2013

Modeling of Solar Cells and Environmental Conditions for Space Microgrids
Raya-Armenta, J. M., Guerrero, J. M., Vasquez, J. C. & Saez, D.
01/01/2019 → 31/12/2021

Flywheel: Off-Shore Application of the Flywheel Energy Storage
Guerrero, J. M., Dragicevic, T. & Anvari-Moghaddam, A.
Den Danske Maritime Fond
13/11/2014 → 28/02/2016

OFFSHORE WIND FARMS LARGE-SCALE INTEGRATION IN TURKEY
Chaudhary, S., Guerrero, J. M., Vasquez, J. C., Tinajero, G. D. A. & Høyer, M.
01/06/2020 → 31/05/2023

VICINITY: Open virtual neighbourhood network to connect IoT infrastructures and smart objects
Guan, Y., Vasquez, J. C., Guerrero, J. M. & Miltersen, A. H.
European Commision
01/01/2016 → 31/12/2019

Photovoltaic Energy Supply for future Energy Neutral Base Stations
Javidsharifi, M., Kerekes, T. & Guerrero, J. M.
01/07/2019 → 30/06/2022

PLANNING, CONTROL, AND ENERGY MANAGEMENT OF SPACE MULTI-MICROGRID CLUSTERS FOR SPACE LUNAR BASES
Saha, D., Guerrero, J. M. & Vasquez, J. C.
01/02/2020 → 31/01/2023
Power management systems for shipboard ZED-based Multi-Microgrid Clusters
Xie, P., Guerrero, J. M. & Vasquez, J. C.
15/12/2018 → 14/12/2021

REMCE: Renewable Energy based Minigrid Clusters in Ethiopia
Chaudhary, S., Golestan, S., Guan, Y., Wu, Y., Vasquez, J. C., Guerrero, J. M. & Guldbæk, B. K.
Danida Fellowship Centre
01/05/2021 → 30/04/2024

REConnect: Renewable Energy Converters Connected in Parallel
Guerrero, J. M., Vasquez, J. C., Guan, Y. & Guldbæk, B. K.
ReConvert BV
01/08/2020 → 15/12/2020

REConnect: Renewable Energy Converters Connected to Grid
Guan, Y., Guerrero, J. M., Vasquez, J. C., Zwam, A. V., Meersman, B. & Oostveen, B.
01/08/2020 → 31/12/2020

Resilience Analysis and Operation of DC Microgrids under Extreme Events
Basati, A., Guerrero, J. M. & Vasquez, J. C.
01/11/2019 → 30/04/2023

The Energy Internet - Integrating Internet of Things into the Smart Grid
Aalborg University
01/01/2017 → 31/12/2019

TROY: UPS SLC-TROY Project
Guerrero, J. M., Vasquez, J. C., Zhang, C., Wei, B. & Gui, Y.
Others
01/04/2015 → 01/06/2017