Pooya Davari  
Associate Professor  
AAU Energy  
The Faculty of Engineering and Science  
Applied Power Electronic Systems  
E-Mobility and Drives  
EMI/EMC in Power Electronics  
Reliability of Power Electronic Components  

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Employment

Associate Professor  
AAU Energy  
The Faculty of Engineering and Science  
Aalborg Øst, Denmark  
1 Aug 2014 → present

Associate Professor  
The Faculty of Engineering and Science  
Aalborg Øst, Denmark  
1 Aug 2014 → present

Applied Power Electronic Systems  
The Faculty of Engineering and Science  
1 Jan 2021 → present

E-Mobility and Drives  
The Faculty of Engineering and Science  
Aalborg Øst, Denmark  
1 Aug 2014 → present

EMI/EMC in Power Electronics  
The Faculty of Engineering and Science  
1 Jan 2021 → present

Reliability of Power Electronic Components  
The Faculty of Engineering and Science  
1 Jan 2021 → present

Publications

Aggregate Modelling of 2-150 kHz Emission in Multi-Converter Systems (with synchronized and unsynchronized switching)  
Reduced-Order and Aggregated Modeling of Large-Signal Synchronization Stability for Multi-Converter Systems

Reliability of Power Electronic Systems for EV/HEV Applications

Review of Harmonic Mitigation Methods in Microgrid: From a Hierarchical Control Perspective

Bridgeless PFC Topology Simplification and Design for Performance Benchmarking

An Overview of Condition Monitoring Techniques for Capacitors in DC-Link Applications

Mission Profile Based Reliability Analysis of A Bridgeless Boost PFC

Differential Mode Noise Estimation and Filter Design for Interleaved Boost Power Factor Correction Converters

A Multistructure Multimode Three-Phase Dual-Active-Bridge Converter Targeting Wide-Range High-Efficiency Performance

Influence of phase-locked loop aggregation on the dynamic aggregation of wind farm strings with heterogeneous parameters

Reliability Analysis of Capacitors in Voltage Regulator Modules with Consecutive Load Transients

An Optimized Hybrid Modulation Scheme for Reducing Conduction Losses in Dual Active Bridge Converters

An Adaptive Model Predictive Voltage Control for LC-Filtered Voltage Source Inverters

Differential mode noise prediction and analysis in single-phase boost PFC for the new frequency range of 9- 150 kHz

Nonlinear Coss-VDS Profile based ZVS Range Calculation for Dual Active Bridge Converters
Adaptive Control in Power Electronics Systems

A Practical Approach to Model a Cable with Nonlinear Material Characteristics

A Single-Phase Reduced Component Count Asymmetrical Multilevel Inverter Topology

Differential mode noise prediction and analysis in single and three phase grid-tied inverters for the frequency range of 9-150 kHz

Frequency-Security Constrained Control of Power Electronic-Based Generation Systems

Fuzzy-Based Frequency Security Evaluation of Wind-Integrated Power Systems

Power Converter Impedance and Emission Characterization Below 150 kHz

Real-Life Mission Profile Oriented Lifetime Estimation of a SiC Interleaved Bidirectional HV DC/DC Converter for Electric Vehicle Drivetrains

Sliding Mode Controllers in Power Electronics Systems

Assessment Accuracy of Power System Frequency Security with Additional Frequency Controls in Wind Turbines

Current Reference Generation based on Next Generation Grid Code Requirements of Grid-Tied Converters during Asymmetrical Faults

Optimization Design and Control of Single-Stage Single-Phase PV Inverters for MPPT Improvement

An Online Monitoring Method for Output Capacitors of DC/DC Boost Converters
Performance enhancement of photovoltaic system under grid voltage distortion utilising total least-square control scheme

Improved harmonic injection pulse-width modulation variable frequency triangular carrier scheme for multilevel inverters

Differential Model EMI Filter Analysis for Interleaved Boost PFC Converters Considering Optimal Phase Shifting

Harmonics Mitigation and Non-Ideal Voltage Compensation Utilizing Active Power Filter Based On Predictive Current Control

Special issue: Harmonic mitigation techniques and grid robustness in power electronic-based power systems

Adaptive Predictive-DPC for LCL-Filtered Grid Connected VSC with Reduced Number of Sensors

Effect of Unipolar and Bipolar SPWM on the Lifetime of DC-link Capacitors in Single-Phase Voltage Source Inverters

Modeling of Converter Synchronization Stability under Grid Faults: The General Case

Model Predictive Control of Grid Forming Converters with Enhanced Power Quality

Single-phase Bridgeless PFC Topology Derivation and Performance Benchmarking

Common-Mode Current Prediction and Analysis in Motor Drive Systems for the New Frequency Range of 2–150 kHz

DC-Link Loop Bandwidth Selection Strategy for Grid-Connected Inverters Considering Power Quality Requirements

An Enhanced Generalized Average Modeling of Dual Active Bridge Converters

Current Limiting Control with Enhanced Dynamics of Grid-Forming Converters during Fault Conditions
Enhanced Zero-Voltage-Switching Conditions of Dual Active Bridge Converter under Light Load Situations

Time Domain Simulation of A Five-Phase BLDC Motor Drive

Control of Grid-Following Inverters under Unbalanced Grid Conditions

An Online Parameters Monitoring Method for Output Capacitor of Buck Converter Based on Large-Signal Load Transient Trajectory Analysis

Robust Fault Ride-Through of Converter-based Generation during Severe Faults with Phase Jumps

Analysis of DC and AC Choke Effects on Common-Mode Noise Emissions in ASD at the Frequency Range of 9–150 kHz

Analytical Modeling of 9-150 kHz EMI in Three-Phase Active Rectifiers

Common mode noise modelling and resonant estimation in a three-phase motor drive system: 9-150 kHz frequency range

Design and Optimization Methodology of Transformer for 700/400 V Series Resonant DC/DC Converters with Enhanced Power Density

Direct Adaptive Current Control of Grid-Connected Voltage Source Converters Based on the Lyapunov Theorem

Frequency-Freezing FLL for Enhanced Synchronization Stability of Grid-Following Converters during Grid Faults

Investigating the Effect of Different Parameters on Harmonics and EMI Emissions at the Frequency Range of 0–9 kHz
Nonlinear Effects of Three-phase Diode Rectifier on Noise Emission in the Frequency Range of 2–9 kHz

Power Density and Loss Optimization Design Methodology of a 10 kW 2-Level 3-Phase SiC Inverter

Standard Test Systems for Modern Power System Analysis: An Overview

Decentralized Droop Control in DC Microgrids Based on a Frequency Injection Approach

Passivity-Based Control Design Methodology for UPS Systems

A Frequency Security Analysis of Wind Integrated Power Systems with Frequency Controls

Analytical Modeling of 9-150 kHz EMI in Single-Phase PFC Converter

An Overview of Assessment Methods for Synchronization Stability of Grid-Connected Converters under Severe Symmetrical Grid Faults

Mission-Profile-Based System-Level Reliability Analysis in DC Microgrids

Performance Assessment of Grid Forming Converters Using Different Finite Control Set Model Predictive Control (FCS-MPC) Algorithms

System-Level Reliability-Oriented Power Sharing Strategy for DC Power Systems

Analysis of Linear Phase-Locked Loops in Grid connected Power Converters

Failure Mode, Effects and Criticality Analysis (FMECA) in Power Electronic based Power Systems
IEEE Access Special Section Editorial: Power Quality and Harmonics Issues of Future and Smart Grids

Power Electronics Topology Comparison and Improvement for Low Voltage - High Current DC/AC Applications

Systematic Approach for Transient Stability Evaluation of Grid-Tied Converters during Power System Faults

Wear-Out Failure of a Power Electronic Converter Under Inversion and Rectification Modes

An Efficient Reduced-Order Model for Studying Synchronization Stability of Grid-Following Converters during Grid Faults

Applications of Power Electronics: Volume 1

High Voltage Gain Quasi-SEPIC DC-DC Converter

A Bridgeless Buck-flyback PFC Converter with High PF and Dead Angles Eliminated

Lifetime Estimation of DC-link Capacitors in Adjustable Speed Drives Under Grid Voltage Unbalances

Reliability Assessment of Single-phase PV Inverters

Applications of Power Electronics

An Optimized Control Scheme to Reduce the Backflow Power and Peak Current in Dual Active Bridge Converters

Applications of Power Electronics: Volume 2
A Flexible Control Scheme for Single-Stage DAB AC/DC Converters

Single-stage Bridgeless Buck-boost PFC Converter with DC Split for Low Power LED Applications

Analysis of Multi-Drive System Performance Under Unbalanced Grid Using Different Grid Synchronization Solutions

A Review on Fault Current Limiting Devices to Enhance the Fault Ride-Through Capability of the Doubly-Fed Induction Generator Based Wind Turbine

Efficiency Enhancement of Bridgeless Buck-Boost PFC Converter with Unity PF and DC Split to Reduce Voltage Stresses

Evaluation of Flicker Measurement in Grid-connected Wind Turbine

Improving Performance of Three-Phase Slim DC-Link Drives Utilizing Virtual Positive Impedance-Based Active Damping Control

System-level Reliability Enhancement of DC/DC Stage in a Single-Phase PV Inverter

An Optimized Control Scheme for Reducing Conduction and Switching Losses in Dual Active Bridge Converters

Grid Synchronization of Wind Turbines during Severe Symmetrical Faults with Phase Jumps

Investigation of acoustic emission as a non-invasive method for detection of power semiconductor aging

Mission Profile Based Power Converter Reliability Analysis in a DC Power Electronic Based Power System

Parallel Operation of Dual VSCs Regulated by FCS-MPC Using Droop Control Approach

Reliability and Risk Assessment in a Power Electronic Based Power System (PEPS): Using Non-Constant Failure Rates of Converters

**Study on Application of New Approach of Fault Current Limiters in Fault Ride through Capability Improvement of DFIG Based Wind Turbine**


**Analysis and Design of the Quasi-Z-Source Inverter for Wide Range of Operation**


**Characterization of Proportional-Integral-Resonant Compensator for DC Link Voltage Control**


**The Impact of Topology and Mission Profile on the Reliability of Boost-type Converters in PV Applications**


**Centralized Control of Modular Multi Rectifier for Motor Drive Applications under Unbalanced Grid**


**Distributed Primary and Secondary Power Sharing in a Droop-Controlled LVDC Microgrid with Merged AC and DC Characteristics**


**Switching Loss Reduction in the Three-Phase Quasi-Z-Source Inverters Utilizing Modified Space Vector Modulation Strategies**


**Load-Independent Harmonic Mitigation in SCR-Fed Three-Phase Multiple Adjustable Speed Drive Systems with Deliberately Dispatched Firing Angles**


**Improving 9-150 kHz EMI Performance of Single-Phase PFC Rectifier**


**Lifetime Benchmarking of Two DC-link Passive Filtering Configurations in Adjustable Speed Drives**


**System-Level Lifetime-Oriented Power Sharing Control of Paralleled DC/DC Converters**

Effects of modulation techniques on the input current interharmonics of Adjustable Speed Drives

Performance Evaluation of the Single-Phase Split-Source Inverter Using an Alternative DC-AC Configuration

Active Rectifiers and Their Control

Enhanced Frequency Droop Method for Load Sharing in LVDC Power Systems

A Modular Active Front-End Rectifier with Electronic Phase-Shifting for Harmonic Mitigation in Motor Drive Applications

A Novel Passive Islanding Detection Scheme for Distributed Generations Based on Rate of Change of Positive Sequence Component of Voltage and Current

Characterization of Input Current Interharmonics in Adjustable Speed Drives

Investigation on Capacitor Switching Transient Limiter with a Three phase Variable Resistance

An improved modulation strategy for the three-phase Z-source inverters (ZSIs)

Capacitance estimation algorithm based on DC-link voltage harmonics using artificial neural network in three-phase motor drive systems

Dynamic and Control Analysis of Modular Multi-Parallel Rectifiers (MMR)

Effects of DC-link Filter on Harmonic and Interharmonic Generation in Three-phase Adjustable Speed Drive Systems

Harmonic Distortion Performance of Multi Three-Phase SCR-Fed Drive Systems with Controlled DC-Link Current under Unbalanced Grid
Synchronverter-Enabled DC Power Sharing Approach for LVDC Microgrids

The Impact of Grid Unbalances on the Reliability of DC-link Capacitors in a Motor Drive

On Secondary Control Approaches for Voltage Regulation in DC Microgrids

Active DaMPing control methods for three-phase slim DC-link drive system

Enhanced Phase-Shifted Current Control for Harmonic Cancellation in Three-Phase Multiple Adjustable Speed Drive Systems

Energy Saving and Efficient Energy Use By Power Electronic Systems

Analysis of Three-Phase Rectifier Systems with Controlled DC-Link Current Under Unbalanced Grids

Performance Evaluation of Electronic Inductor-Based Adjustable Speed Drives with Respect to Line Current Interharmonics

Dissimilar trend of nonlinearity in ultrasound transducers and systems at resonance and non-resonance frequencies

Harmonic Emissions of Three-Phase Diode Rectifiers in Distribution Networks

A robust adaptive load frequency control for micro-grids

Family of Step-up DC/DC Converters with Fast Dynamic Response for Low Power Applications

Analysis of Harmonics Suppression by Active Damping Control on Multi Slim DC-link Drives
A Multi-Pulse Front-End Rectifier System with Electronic Phase-Shifting for Harmonic Mitigation in Motor Drive Applications

A New Secondary Control Approach for Voltage Regulation in DC Microgrids

A Review of Electronic Inductor Technique for Power Factor Correction in Three-Phase Adjustable Speed Drives

Energy Saving in Three-Phase Diode Rectifiers Using EI Technique with Adjustable Switching Frequency Scheme

Power-Quality-Oriented Optimization in Multiple Three-Phase Adjustable Speed Drives

Predictive Pulse Pattern Current Modulation Scheme for Harmonic Reduction in Three-Phase Multidrive Systems

Smart Power Management of DC Microgrids in Future Milligrids

Pulse Pattern-Modulated Strategy for Harmonic Current Components Reduction in Three-Phase AC–DC Converters

Adjustable Speed Drives and Power Quality: Challenges and Cost-Effective Opportunities

Deliberately dispatched SCR firing angles for harmonic mitigation in three-phase multi-drive systems without communication

A DC-Link Modulation Scheme with Phase-Shifted Current Control for Harmonic Cancellations in Multidrive Applications

Addressing the Unbalance Loading Issue in Multi-Drive Systems with A DC-Link Modulation Scheme for Harmonic Reduction

A Multipulse Pattern Modulation Scheme for Harmonic Mitigation in Three-Phase Multimotor Drives
Input current interharmonics in adjustable speed drives caused by fixed-frequency modulation techniques

Energy saving and efficient energy use by power electronic systems

Investigating Pulsed Discharge Polarity Employing Solid-State Pulsed Power Electronics

Performance evaluation of non-thermal plasma on particulate matter, ozone and CO2 correlation for diesel exhaust emission reduction

A Novel Harmonic Elimination Approach in Three-Phase Multi-Motor Drives

A Smart Current Modulation Scheme for Harmonic Reduction in Three-Phase Motor Drive Applications

Pulse pattern modulated strategy for harmonic current components reduction in three-phase AC-DC converters

Controlling current and voltage type interfaces in power-hardware-in-the-loop simulations

Power converters design and analysis for high power piezoelectric ultrasonic transducers

Sterilizing tissue-materials using pulsed power plasma

Analysing DBD plasma lamp intensity versus power consumption using a push-pull pulsed power supply

Effect of pulsed power on particle matter in diesel engine exhaust using a DBD plasma reactor

Parallel and series configurations of flyback converter for pulsed power applications

A flexible solid-state pulsed power topology
High-Voltage Modular Power Supply Using Parallel and Series Configurations of Flyback Converter for Pulsed Power Applications

Improving the efficiency of high power piezoelectric transducers for industrial applications

Parallel and Series Configurations of Flyback Converter for Pulsed Power Applications
Davari, P., Zare, F. & Ghosh, A., 2012, IEEE/ICIEA.

Power Electronic Converters for High Power Ultrasound Transducers

Designing a new robust on-line secondary path modeling technique for feedforward active noise control systems

An efficient online secondary path estimation for feedback active noise control systems

A New Feedback ANC System Approach

A self-tuning feedforward active noise control system

A robust feedforward active noise control system with a variable step-size fxlms algorithm: Designing a new online secondary path modelling method

An optimized online secondary path modeling method for single-channel feedback ANC systems

A new fast and efficient HMM-based face recognition system using a 7-state HMM along with SVD coefficients

A new online secondary path modelling method for feedforward active noise control systems

A variable step-size FxLMS algorithm for feedforward active noise control systems based on a new online secondary path modelling technique

A New Face Recognition System-Using HMMs Along with SVD Coefficients.
Benefiting White Noise in Developing Feedforward Active Noise Control Systems
8 p.

Press clippings
HOW ELECTROMAGNETIC COMPATIBILITY OF POWER ELECTRONIC SYSTEMS CONTRIBUTES TO "CLIMATE ACTION"
Pooya Davari
14/09/2020
1 item of Media coverage

Iranian classmates reunited in Queensland lab make medical breakthrough
Pooya Davari
27/03/2014
1 item of Media coverage

LOW HARM-projektet sætter fokus på strømforsyninger
Pooya Davari
08/06/2020
1 item of Media coverage

Postdoc grants from the Danish Council for Independent Research | Technology and Production Sciences, September 2015
Pooya Davari
01/09/2015
1 Media contribution

Activities
SUSTAINABLE DIGITAL INFRASTRUCTURE ALLIANCE (SDIA) (External organisation)
Pooya Davari (Member)
Apr 2021

IEEE EMC Society (External organisation)
Pooya Davari (Chairman)
Feb 2021

Applied Sciences (Journal)
Pooya Davari (Editor)
2021

Power Electronic Devices and Components (Journal)
Pooya Davari (Editor)
2021

Power Electronics Ready for New Grid Requirements
Pooya Davari (Lecturer)
2 Nov 2020

Circuit World (Journal)
Pooya Davari (Editor)
Sep 2020
21st IEEE Workshop on Control and Modeling for Power Electronics, COMPEL 2020
Pooya Davari (Organizer)
2020

Magnetism (Journal)
Pooya Davari (Editor)
2020

Journal of Power Electronics (Journal)
Pooya Davari (Editor)
Feb 2019

Application of Power Electronics (Journal)
Frede Blaabjerg (Peer reviewer), Tomislav Dragicevic (Peer reviewer) & Pooya Davari (Peer reviewer)
2019 → …

Application of Power Electronics (Journal)
Frede Blaabjerg (Peer reviewer), Tomislav Dragicevic (Peer reviewer) & Pooya Davari (Peer reviewer)
2019 → …

Danish Standards (External organisation)
Pooya Davari (Member)
2019

International Electrotechnical Commission (IEC) (External organisation)
Pooya Davari (Member)
2019

Electronics Letters (Journal)
Pooya Davari (Editor)
Jun 2018 → …

29th European Symposium on Reliability of Electron Devices, Failure Physics and Analysis
Pooya Davari (Organizer)
2018

Applied Sciences (Journal)
Pooya Davari (Editor)
2018

Rectification Harmonics in Motor Drives: Modeling and Control
Pooya Davari (Lecturer), Yongheng Yang (Lecturer) & Dao Zhou (Lecturer)
29 Oct 2017

EMC Design of Drive Systems [Modeling, Prediction and Mitigation of Grid-Side 0-150 kHz Harmonic Emissions]
Pooya Davari (Lecturer)
12 Jun 2017 → 13 Jun 2017

Strategies in Protecting Future Power Grids from Rectifier's Harmonic Emissions (0-150 kHz): Modelling, Prediction and Mitigation
Pooya Davari (Lecturer)
3 May 2017
EPE (External organisation)
Pooya Davari (Member)
2017

42nd Conference of the Industrial Electronics Society, IECON 2016
Pooya Davari (Participant)

International Journal of Power Electronics (Journal)
Pooya Davari (Editor)
Jul 2016 → ...

Seventh Annual IEEE Energy Conversion Congress & Exposition (ECCE 2015)
Pooya Davari (Speaker)
22 Sep 2015 → 30 Sep 2015

17th European Conference on Power Electronics and Applications, EPE-ECCE Europe 2015
Pooya Davari (Speaker)
8 Sep 2015 → 10 Sep 2015

HARMONY Symposium 2015
Pooya Davari (Speaker)
31 Aug 2015

Leading the Virtual Company – Pasteur Program 2015
Pooya Davari (Participant)
27 Jan 2015 → 16 Nov 2015

Internation Power Electronics and Motion Control Conference 2012 (EPE-PEMC 2012)
Pooya Davari (Speaker)
4 Sep 2012 → 6 Sep 2012

7th IEEE Conference on Industrial Electronics and Applications
Pooya Davari (Speaker)
18 Jul 2012 → 31 Jul 2012

Projects

BioCat Roslev – Phase 1
Blaabjerg, F. & Davari, P.
EUDP
26/09/2018 → 31/08/2019

EMC-Power: ElectroMagnetic Compatibility design and modeling in three-phase Power converters
Davari, P. & Blaabjerg, F.
Schneider Electric
01/01/2021 → 31/12/2022

eSMR-MeOH: Biogas to MeOH by electric reforming
Blaabjerg, F., Davari, P. & Yang, Y.
EUDP
01/08/2019 → 29/09/2023
HIRED: High Quality and Robust Energy Conversion Systems for Distributed Network
Davari, P.
Australian Research Council (ARC)
16/11/2018 → 15/11/2021

Multi-Physics of High Power Density Power Electronic Systems
Davari, P. & Steffensen, B.
DFF-Individueelle postdocstipendier : DFF-1333-00034
01/03/2016 → 31/09/2018

NHTD: New Harmonic Reduction Techniques for Motor Drives
Blaabjerg, F., Davari, P., Yang, Y. & Soltani, H.
Højteknologifonden
01/05/2014 → 30/11/2017

Online Condition-Monitoring of Power Semiconductor Devices using Acoustic Time-frequency Spectral Signature
Davari, P., Iannuzzo, F. & Kristensen, O. D.
Department of Energy Technology
15/08/2017 → 14/04/2018

LOW HARM : Power Electronics Ready for New Grid Harmonic Requirements
Davari, P. & Østergaard, J.
Innovationsnetværket Smart Energy (Inno-SE)
01/10/2019 → 30/09/2020

Pyroelectricty for Multiphysics Sensing and Energy Harvesting
Rezaniakolaei, A., Davari, P. & Miltersen, A. H.
Aalborg University
01/05/2021 → 31/10/2021

REPEPS: REliable Power Electronic based Power System
01/08/2017 → 01/12/2023

Stable-Drives: Stability enhancement methodologies for slim dc-link Drives
Blaabjerg, F. & Davari, P.
01/12/2020 → 15/03/2021

Topology Optimization for High Efficiency Wide Band Gap Ground Power Unit
Blaabjerg, F., Nielsen, A. B. & Davari, P.
Innovation Fund Denmark
01/05/2018 → 30/04/2021

2016 Lorem ipsum dolor sit amet
2015 Lorem ipsum dolor sit amet
2014 Lorem ipsum dolor sit amet
2013 Lorem ipsum dolor sit amet
2012 Lorem ipsum dolor sit amet
2011 Lorem ipsum dolor sit amet