



EPE'23 ECCE Europe – Aalborg, Denmark (4-8 September 2023)

List of Keywords

12-Pulse rectifier	Asynchronous motor
3-Level NPC	Asynchronous rectifier
Aalborg inverter	Automatic Generation Control
AC machine	Automotive application
AC-AC	Automotive component
AC-AC converter	Automotive electronics
AC-cable	Autotuning
Accelerators	Auxiliary power module
AC-DC	Avalanche
AC-DC converter	Axial flux hybrid-excitation machine
AC-DC microgrid	Axial machines
Acoustic noise	Back Propagation
Active damping	Batteries
Active filter	Battery
Active front-end	Battery charger
Active magnetic bearing	Battery electrochemical model
Active power-decoupling circuit	Battery impedance measurement
Active Power-Line Conditioning	Battery Management Systems (BMS)
Active protection	Bearing currents
Actuator	Bi-directional
Adaptive auto-reclosing	Bi-directional converters
Adaptive control	Billing rules
Additive manufacturing	Bipolar DC
Adjustable speed drive	Bipolar device
Adjustable speed generation system	Bipolar Junction Transistor (BJT)
ADMM algorithm	Black start
Aerospace	Block modulation
Aging	Boost
Air-friction loss	Boost inductor optimization
Airplane	Brain emotional learning
All Electric Aircraft	Braking chopper
Alternative energy	Branch currents mismatch
Amplifiers	Breakdown
Analytical losses computation	Brushless doubly fed reluctance machine
Analytical model	Brushless drive
Ancillary services	Buck converter
AQG-324 standard	Buck-boost converter
Arbitrary wave shape generator for dielectric test	Bus bar
Artificial intelligence	Calculation method



Capacitive coupling	Cooling
Capacitor coupled	Core loss
Capacitor voltage balancing	Core loss modelling
Capacitors	Corrosion testing
Carbon neutrality	Co-simulation
Cascaded H-Bridge	Cost
Cascode	Cost analysis
CC-CV charging	Cost function
Chaotic suppression EMI	Coupled capacitor
Charge compensation device	Coupled inductor
Charge scheduling	Coupling characteristics
Charge station	Cryogenic
Charging	CSI
Charging infrastructure for EV's	Current balancing
Circuits	Current derivative
Class-D amplifier	Current filaments
Closed form equations	Current limiter
Combination MMC-LLC	Current loop
Combined heat and power	Current observer
Common ground	Current sensor
Common-mode current	Current sharing
Communication for Power Electronics	Current source
Commuting	Current Source Converter (CSC)
Compensation	Current Source Inverter (CSI)
Component for measurements	Current-fed converter
Compressor	Current-source DC-DC
Computational cost	Cyber attack
Condition monitoring	Cyber physical system
Conduction losses	DAB control
Consensus	DAB-LLC converter
Consensus-based cooperative control	Damping network
Contact resistance	Data analysis
Contactless energy transfer	Data transmission
Contactless power supply	DC circuit breaker
Control interactions	DC collector network
Control methods for electrical systems	DC grid component
Control of drive	DC impedance scanning
Control strategy	DC machine
Controller benchmark	DC power supply
Controllers	DC railway power supply
Conversion ratio	DC voltage control
Converter circuit	DC-AC
Converter control	DC-AC converter
Converter machine interactions	DC-cable



DC-DC
 DC-DC converter
 DC-DC power converter
 DC-link
 Dead-time
 Decentralized control structure
 Deep learning
 Deep Neural Network
 Degradation
 Demagnetization
 Demand response
 Design
 Design optimization
 Design Space Optimization
 Device
 Device application
 Device characterisation
 Device integration
 Device modelling
 Device simulation
 Devices
 Diagnostics
 Diamond
 Dielectric losses
 Dielectric tests
 Differential inverters
 Digital control
 Digital twin-based health monitoring
 Diode
 Direct matrix converter
 Direct power control
 Direct torque and flux control
 Direct Torque Control (DTC)
 Discontinuous pulse-width modulation
 Discrete power device
 Discrete-model
 Discrete-time
 Distributed generation
 Distributed power
 Distribution FACTS (DFACTS)
 Distribution of electrical energy
 Distribution STATCOM doubly fed induction motor
 DM inductance
 Double pulse test
 Double-input converter
 Doubleside cooling (DSC)
 Double-Star Chopper Cells (DSCC)
 Doubly-Fed Induction Generator (DFIG)
 Drilling
 Drive
 Driver concepts
 Droop control
 DSP
 Dual Active Bridge (DAB)
 Dual Active Bridge (DAB) DC-DC converter
 Dual Active Bridge Converter
 Dual-mode
 dV/dt
 Dynamic power flow simulation
 Dynamic Ron
 Dynamic Voltage Restorer (DVR)
 Dynamic wireless charger
 Economic dispatch
 Eddy current loss
 Education methodology
 Education tool
 EESM
 Efficiency
 Eigenvalue analysis
 Elastic / Plastic deformation
 Electric bicycle
 Electric bus fleet
 Electric propulsion
 Electric Vehicle (EV)
 Electrical drive
 Electrical machine
 Electrified aircraft
 Electroactive materials
 Electroluminescence
 Electrolysis
 Electromagnetic energy harvester
 Electromagnetic Interference (EMI)
 Electronic ballast
 Electronic tap changer
 Electrostatic machine
 Embarked networks
 EMC Capacitors for WBG
 EMC/EME



EMC/EMI
 Emerging technology
 Emerging topology
 EMI modeling
 Energetic macroscopic representation
 Energy Balancing
 Energy Control Unit (ECU)
 Energy conversion
 Energy converters for HEVs
 Energy digitalization
 Energy lifetime
 Energy management
 Energy Management System (EMS)
 Energy requirement and losses estimation
 Energy storage
 Energy transformation
 Energy transition
 Environment
 Estimation technique
 Evaluation kit
 Excitation system
 Experimental testing
 FACTS
 Failure modes
 Failure rate
 False turn-on
 Fast fault detection
 Fast recovery diode
 Fast transient response
 Fault detection
 Fault handling strategy
 Fault operation
 Fault ride-through
 Fault tolerance
 Faults
 Fault-tolerant control
 Ferrite
 Ferrite assisted Synchronous Reluctance Machine
 Field Oriented Control
 Field Programmable Gate Array (FPGA)
 Fieldbus
 Filter design automation
 Filter optimization
 Filtering
 Finite Control Set
 Finite-element analysis
 Finite-element method
 Flatness control
 Flicker
 Flux model
 Flux separation
 Flux-concentrating
 Flux-Switching Machine
 Flyback converter
 Flying Capacitor Boost Converter
 Flying Capacitor Converter
 Flywheel
 Flywheel system
 Foil winding
 Force Control
 Four-Switch Buck-Boost Converter (FSBB)
 Four-wire measurement
 Free Wheel Diode (FWD)
 Frequency domain analysis
 Frequency dynamics
 Frequency estimation
 Frequency scaling
 Frequency-Domain Analysis
 Fuel Cell
 Fuel Cell Electric Vehicle (FCEV)
 Fuel Cell system
 Functional safety torque estimation
 Fuzzy control
 Gallium Nitride (GaN)
 Game theory
 Gate recess
 Generation of electrical energy
 Generator
 Generator excitation system
 Genetic algorithm
 Green aviation
 Grid integration
 Grid measurements
 Grid-connected converter
 Grid-connected inverter
 Grid-forming
 Grid-forming converter
 Half bridge



Half-bridge active-clamp converter	Impedance model
Hard switching	Induction heating
Hardware	Induction motor
Hardware design	Industrial application
Hardware-In-the-Loop (HIL)	Industrial communications
Harmonic current model	Industrial information systems
Harmonic injection	Inertia support
Harmonic summation	Input admittance
Harmonics	Inrush current
Harmonics active filter	Insertion loss
Heat-pipe evaporator	Insulation
HEMT	Integrated Circuit (IC)
HEMTs	Integrated Drive
High frequency power converter	Integrated motor drives
High low-frequency ripple	Integrated Rogowski coils
High power density systems	Integrated transformer
High power discrete device	Integration
High speed drive	Intelligent drive
High temperature electronics	Intelligent gate driver
High voltage IC's	Intelligent Power Module (IPM)
High voltage power converters	Intercell transformer
High-accuracy positioning	Interconnected microgrids
High-definition output	Interharmonics
High-frequency windings	Interleaved converters
Highly dynamic drive	Interleaved inverters
High-speed drive	Interoperability
Honeycomb approach	Inverter design
Humidity	Inverter-output filter
HVDC	Iron losses
Hybrid	Islanded operation
Hybrid control strategy	Islanding detection
Hybrid DC breaker	Isolated bidirectional DC-DC converters
Hybrid Electric Vehicle (HEV)	Isolated converter
Hybrid power integration	I-V signature
Hybrid simulation	JFET
Hybrid switched capacitor	Junction temperature
Hybrid transformer	Junction temperature control
Hydrogen	Junction temperature estimation
IED	Junction temperature measurement
IGBT	LCL
IGCT	LCL-type inverter
Imbalanced classification learning	Leakage current
Impedance analysis	Levelized cost of energy
Impedance measurement	Life Cycle Analysis (LCA)



- Lifetime
- Lifetime of DC-Link Capacitor
- Lighting
- Linear drive
- Linear time periodic systems
- Lithium-ion
- Lithium-ion battery
- Litz wire
- LLC resonant converter
- Load imbalance
- Load sharing control
- Load shedding
- Load torque
- Locomotive
- Low inductive busbar
- Low-Inertia Grid
- LVDC
- M2DC
- Machine emulation
- Machine learning
- Machine tool drive
- Magnet loss
- Magnetic bearings
- Magnetic coupling
- Magnetic device
- Magnetic leakage field
- Magnetic saturation
- Maintenance
- Marine
- Matrix converter
- Maximum Power Point Tracking (MPPT)
- Maximum Power Point Tracking Quadratic Converters
- Measurements
- Mechatronics
- Medium voltage
- Medium voltage converter
- Medium-voltage grid
- Microcontrollers
- Microgrid
- Micro-inverter
- Midpoint voltage balancer
- Miniaturization
- Mission profile
- Model Predictive Control
- Model-based Predictive Control
- Modelling
- Modified nodal analysis
- Modified PMR control
- Modified-TOGI-PLL
- Modular converter
- Modular matrix converter
- Modular Multilevel Converters (MMC)
- Modular Reconfigurable Batteries
- Modulated Hysteresis Direct Torque Control
- Modulation scheme
- Modulation strategy
- Module temperature measurement
- Monolithic power integration
- More-Electric Aircraft
- MOS device
- MOSFET
- Motion control
- MPC (Model-based Predictive Control)
- MPPT
- M-Shunt
- Multi-axle drives
- Multicopters and drones
- Multi-level converters
- Multi-level hysteresis control
- Multi-level inverters
- Multi-level system
- Multi-machine system
- Multi-objective optimization
- Multiphase converter
- Multiphase drive
- Multi-physics design
- Multiple secondary windings
- Multi-port converters HVDC/MVDC/HVAC
- Multi-rotor wind turbine clustering
- Multi-terminal HVDC
- Mutual couplings
- Mutual inductance
- Nano-crystalline core
- Nano-grid
- Nanotechnology
- Natural convection
- Nearest level modulation
- Nelder-Mead simplex algorithm



- Neural network
- Neuronal control
- Neutral current ripple
- Neutral Point Clamped Inverter
- New switching devices
- Night mode
- Nine-switch converter
- Noise
- Non-constant failure rates
- Non-identical devices
- Non-intrusive load monitoring
- Non-isolated EV Chargers
- Non-linear control
- Non-linear loads
- Non-standard electrical machine
- Normally-off
- Normally-on
- NTC sensor
- Nuclear fusion
- OCV fitting
- Ohmic losses
- ON/OFF control
- On-board auxiliary power supply system
- On-board charger
- On-board network
- On-chip fuse
- Open switch fault
- Open-end winding
- Open-ended winding PMSM
- Operating condition
- Optimal control
- Optimal efficiency drive
- Optimization
- Optimization algorithm
- Optimization method
- Overcurrent capability
- Overcurrent protection
- Overload
- Overmodulation
- P&O MPPT
- Packaging
- Parallel Hybrid Converter
- Parallel operation
- Paralleling
- Parasitic elements
- Parasitic inductance
- Parasitic turn-on
- Parasitics
- Partial discharge
- Partial-Power Processing
- Particle accelerator
- Passive component
- Passive component integration
- Passive filters
- Passivity
- PCB Bus
- PD-PWM
- Permanent magnet
- Permanent magnet motor
- Permanent Magnet Synchronous Generator
- Permeability
- P-GaN regrowth
- Phase-shedding
- Phase-Shift Mode
- Photovoltaic
- Physics research
- Piezo actuators
- Piezoelectric resonator
- PI-MR control
- Planar core
- Planar magnetics
- Planar transformer
- Plasma
- PLL
- Plug and play control
- PM assisted Synchronous Reluctance Machine
- PMSM
- Pole placement
- Pole shift
- Pole-phase changing
- Polymer-epoxy
- Portable appliances
- Position measurement
- Power balance control technique
- Power capability
- Power conditioning
- Power converters for EV
- Power converters for FCEV



- Power converters for HEV
- Power cycling
- Power density optimisation
- Power die
- Power factor
- Power factor correction
- Power flow
- Power flow control
- Power fluctuation compensation
- Power Hardware-in-the-loop
- Power integrated circuit
- Power Line Communication
- Power losses
- Power management
- Power plant performance
- Power quality
- Power semiconductor device
- Power sharing
- Power supply
- Power system
- Power system stability
- Power transmission
- Powertrain
- Power-to-X
- PR-Controller
- Pre-compliance
- Predictive control prognosis
- Predictive fatigue modeling
- Pressing
- Prognostics
- Programming
- Proportional Resonant Control
- Protection device
- PR-plug-in RC
- Pulsating DC Link Converter (PDLC)
- Pulse current charge/discharge
- Pulse Width Modulation (PWM)
- Pulsed current
- Pulsed power
- Pulsed power converter
- PV active generator
- PWM comparator
- Quad-Active-Bridge Series-Resonant Converter
- Quasi-two-level
- Radio Frequency (RF)
- Rail vehicle
- Railway power supply
- Railway traction system
- Railway vehicles
- Reactive power
- Real-time processing
- Real-time simulation
- Reconfigurable resonant network
- Regenerative power
- Regulation
- Regulators
- Relative Gain Array
- Reliability
- Reluctance drive
- Remote sensing
- Renewable energy systems
- Residual current device
- Resonant converter
- Resonant peak damping strategies
- Reverse recovery
- RIE
- Ripple minimization
- Ripple port
- Road vehicle
- Robotics
- Robust control
- Robustness
- Root trajectory
- Rotor eccentricity cogging
- Rotor temperature sensing
- Safety
- Saturation
- Scalable control
- Schottky diode
- Seamless transfer
- Second-Order Generalized Integrator (SOGI)
- Self-sensing control
- Semiconductor device
- Sensitivity analysis
- Sensor
- Sensorless control
- Sensorless current sharing
- SEPIC converter



- Servo-drive
- Shedding and restoration algorithms
- Shielding modeling and methods
- Ship
- Shoot-through
- Shore-to-ship charging
- Short circuit
- Short circuit current data exchange
- Shunt current
- SiC MOSFET
- SiC oscillation
- Signal processing
- Silicon Carbide (SiC)
- Silicone gel
- Simulation
- Sine filter
- Single Active Bridge
- Single phase system
- Single-event burnout
- Single-Inverter Multi-Motor
- Single-stage LLC AC-DC converter
- Singular perturbation methods
- Six-step
- Sliding mode control
- Small-signal
- Small-signal stability
- Smart gate drivers
- Smart grids
- Smart loads
- Smart meter
- Smart microgrids
- Smart power
- Smart transformer
- Snubber
- Soft switching
- Software
- Software-defined power domains
- Solar cell system
- Solar field
- Solenoid inductor
- Solid-State
- Solid-State Circuit Breaker (SSCB)
- Solid-State Transformer
- Space
- Space Vector PWM
- S-Parameters
- Speed control
- Spike detection
- Split-source converter
- Split-source inverter
- Square-wave operation
- Stability
- Stability analysis
- Stability assessment
- Stacked converter
- Standard
- Standardization
- State and disturbance observers
- State of charge
- State-space
- State-space model
- Static rotor unbalance
- Static Synchronous Compensator (STATCOM)
- Static Var Compensator (SVC)
- Statistics
- Steady-State Analysis
- Submodule capacitor parameter design
- Sub-Synchronous Resonance (SSR)
- Super junction devices
- Supercapacitor
- Superconducting Magnetic Energy Storage (SMES)
- Superconductors
- Supervisory system
- Supply quality
- Suppression of displacement current
- Sustainable system
- Sustainable technology
- SVC
- Switched capacitor
- Switched reluctance drive
- Switched-mode power supply
- Switching and conduction losses
- Switching cell
- Switching frequency control
- Switching losses
- Synchronization
- Synchronization stability
- Synchronous Buck Converter



- Synchronous motor
- Synchronous rectifier
- Synchronous Reluctance Machine (SynRM)
- Synthesis
- Synthetic inertia
- Synthetic inertia control
- System identification
- System integration
- System modeling
- System-on-Chip Boards
- Systems engineering
- Teaching
- Technology-readiness level
- teleoperation
- Test bench
- Thermal behavior
- Thermal cycling
- Thermal design
- Thermal management
- Thermal model
- Thermal storage
- Thermal stress
- Thermo-electric energy
- Third harmonic injection
- Three-phase motor drive
- Three-phase system
- Threshold voltage instability
- Threshold voltage shift
- Thyristor
- Tight voltage regulation
- Time resolution
- Time-Domain Analysis
- Time-optimal control
- Time-sharing
- Torque control
- Torque sharing function
- Torque-to-weight ratio
- Total harmonic distortion
- Traction application
- Traction loss minimization
- Transducer
- Transformer
- Transformer arrangement
- Transformerless
- Transformerless PV inverter
- Transient analysis
- Transient liquid phase die bonding
- Transistor
- Transmission
- Transmission line transformer
- Transmission of electrical energy
- Transport
- Transversal flux motor
- Triangular current mode
- Tri-port isolated DC-DC converter
- TS/EMT co-simulation
- TSEP
- T-type inverter
- Two-phase cooling
- Ultra capacitors
- Unbalanced AC grid
- Unbalanced voltages
- Uninterruptible Power Supply (UPS)
- V2G
- Vacuum micro-electronic device
- Variable flux reluctance machine
- Variable resistance
- Variable speed drive
- Variable Switching Point
- Varistor
- Vector control
- Vehicle-to-Grid
- Vibration
- Vibration suppression
- Vienna rectifier
- Virtual impedance
- Virtual instrument
- Virtual prototyping
- Virtual Synchronous Generator (VSG)
- Virtual Synchronous Machine
- Voltage control
- voltage imbalance of series-connected IGBTs
- Voltage recovery
- Voltage regulation
- Voltage Regulator Modules (VRM)
- Voltage sag compensators
- Voltage sensor
- Voltage Source Converter (VSC)



Voltage Source Converters (VSCs)

Voltage Source Inverter (VSI)

Volume reduction

VSP3CC

V-type

Water transport

Wave energy

Wear-out failure

Wide bandgap

Wide bandgap devices

Wide input voltage range

Wide range operation

Wind energy

Wind-generator systems

Winding topology

Wiper motor

Wireless control

Wireless Power Transmission

Wireless sensors

Wound-field flux switching machine

ZCS converters

ZCZVS converters

Zero emission

Zero frequency

Zero sequence voltage

Zero speed

Zero speed estimation

Zero-voltage overshoot

Zero-voltage switching

Z-source converter

ZVS converters