EPE'25 – Paris, France (31 March > 4 April 2025)

List of Keywords

12-Pulse rectifier

3-Level NPC

Aalborg inverter

AC machine

AC-AC

AC-AC converter

AC-cable

Accelerators

AC-DC

AC-DC converter

AC-DC microgrid

Acoustic noise

Active damping

Active Disturbance Rejection Controller (ADRC)

Active filter

Active front-end

Active magnetic bearing

Active power-decoupling circuit

Active Power-Line Conditioning

Active protection

Actuator

Adaptive auto-reclosing

Adaptive control

Additive manufacturing

Adjustable speed drive

Adjustable speed generation system

ADMM algorithm

Aerospace

Aging

Air-friction loss

Airplane

All Electric Aircraft

Alternative energy

Ampere's Law

Amplifiers

Analytical losses computation

Analytical model

Ancillary services

Angle Control

AQG-324 standard

Arbitrary wave shape generator for dielectric test

Arm inductor

Artificial intelligence

Asynchronous motor

Asynchronous rectifier

Automatic Generation Control

Automatic Voltage Regulator

Automotive application

Automotive component

Automotive electronics

Autotuning

Auxiliary power module

Avalanche

Axial flux

Axial flux hybrid-excitation machine

Axial machines

Back Propagation

Batteries

Battery

Battery charger

Battery electrochemical model

Battery energy storage system

Battery impedance measurement

Battery Management Systems (BMS)

Bearing currents

Bi-directional

Bi-directional converters

Billing rules

Bipolar DC

Bipolar device

Bipolar Junction Transistor (BJT)

Black start

Block modulation

Body-diode

Boost

Boost inductor optimization

Brain emotional learning

Braking chopper

Branch currents mismatch

Breakdown

Brushless doubly fed reluctance machine

Brushless drive

Buck converter

Buck-boost converter

Bus bar

Calculation method

Capacitive coupling

Capacitor coupled

Capacitor voltage balancing

Capacitors

Carbon neutrality

Cascaded H-Bridge

Cascode

CC-CV charging

Chaotic suppression EMI

Charge compensation device

Charge scheduling

Charge station

Charging

Charging infrastructure for EV´s

Cigre benchmark

Circuits

ClampDRIVE

Class-D amplifier

CLLC resonant converter

Closed form equations

Combination MMC-LLC

Combined heat and power

Combo CCS Type 2

Commercial microgrid controller

Common ground

Common-mode current

Communication for Power Electronics

Community microgrid

Commuting

Compensation

Component for measurements

Compressor

Computational cost

Condition monitoring

Conduction losses

Consensus

Consensus-based cooperative control

Contact resistance

Contactless energy transfer

Contactless power supply

Control interactions

Control methods for electrical systems

Control of drive

Control strategy

Controllable short-circuit current

Controller benchmark

Controllers

Controllers PI control

Conversion ratio

Converter circuit

Converter control

Converter machine interactions

Cooling

Core loss

Core loss modelling

Corrosion testing

Co-simulation

Cost

Cost analysis

Cost function

Coupled capacitor

Coupled inductor

Coupling characteristics

Cryogenic

CSI

Current balancing

Current derivative

Current doubler

Current filaments

Current limiter

Current loop

Current observer

Current sensor

Current sharing

Current source

Current Source Converter (CSC)

Current Source Inverter (CSI)

Current-fed converter

Current-source DC-DC

Cyber attack

Cyber physical system

DAB control

DAB-LLC converter

Damping network

Data analysis

Data transmission

Data-driven

DC bias

DC circuit breaker

DC collector network

DC diode-mode test

DC grid component

DC grounding

DC impedance scanning

DC machine

DC power supply

DC railway power supply
DC voltage control
DC-AC
DC-AC converter
DC-cable
DC-DC
DC-DC converter
DC-DC power converter
DC-link
DC-Link capacitor
Deadbeat control
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
Device-to-system
DFLM
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 time domain modelling
Discrete wavelet transform
Discrete-model
Discrete-time

Distributed generation
Distributed model predictive control
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 Two-Level Converter
Dual-mode
dV/dt
Dynamic avalanche
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
EIS
Elastic / Plastic deformation
Electric bicycle
Electric bus fleet
Electric drive
Electric propulsion
Electric Vehicle (EV)
Electrical drive
Electrical machine
Electrified aircraft
Electroactive materials
Electroluminescence
Electrolysis

Electromagnetic energy harvester

Electromagnetic Interference (EMI)

Electronic ballast

Electronic load

Electronic tap changer

Electrostatic machine

Embarked networks

EMC Capacitors for WBG

EMC/EME

EMC/EMI

Emergency power supply

Emerging technology

Emerging topology

EMI modeling

E-Mobility

Energetic macroscopic representation

Energy Balancing

Energy Control Unit (ECU)

Energy conversion

Energy converters for HEVs

Energy digitalization

Energy harvesting (Piezo)

Energy island

Energy lifetime

Energy management

Energy Management System (EMS)

Energy requirement and losses estimation

Energy storage

Energy transformation

Energy transition

Entropy

Envelope amplifier

Environment

Estimation technique

Evaluation kit

Excitation system

Experimental testing

Exponential matrix

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

Feature engineering

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

Fluctuating dc-link voltage

Flux model

Flux separation

Flux weakening

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

Fractional slot concentrated windings

Free Wheel Diode (FWD)

Frequency

Frequency dynamics

Frequency estimation

Frequency modulation

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 driver

Gate recess

Gate voltage boosting

Gate-drive

Generalized second-order differentiator

Generation of electrical energy

Generator

Generator excitation system

Genetic algorithm

Green aviation

Grid integration

Grid measurements

Grid-connected converter

Grid-connected converter control

Grid-connected inverter

Grid-forming

Grid-forming converter

Grounding

Half bridge

Half-bridge active-clamp converter

Hard switching

Hardware

Hardware design

Hardware-In-the-Loop (HIL)

Harmonic

Harmonic current model

Harmonic injection

Harmonic summation

Harmonic voltage mitigation

Harmonics

Harmonics active filter

Health assessment

Heat-pipe evaporator

HEMT

HEMTs

High frequency power converter

High low-frequency ripple

High performance

High power density systems

High power discrete device

High speed drive

High temperature electronics

High voltage IC's

High voltage power converters

High-accuracy positioning

High-definition output

High-frequency windings

Highly dynamic drive

High-speed drive

Honeycomb approach

Humidity

HVDC

Hybrid

Hybrid control method

Hybrid control strategy

Hybrid DC breaker

hybrid DC transformer

Hybrid Electric Vehicle (HEV)

Hybrid power integration

Hybrid simulation

Hybrid switched capacitor

Hybrid transformer

Hydrogen

I²t rectifier diodes

IED

IGBT

IGCT

Imbalanced classification learning

Immunity

Impedance analysis

Impedance measurement

Impedance model

Incremental capacity

Indirect Matrix Converter (IMC)

Induction heating

Induction motor

Industrial application

Industrial communications

Industrial information systems

Inertia support

Input admittance

Inrush current

Insertion loss

Insulation

Integrated Chargers

Integrated Circuit (IC)

Integrated Drive

Integrated motor drives

Integrated on-board charger

Integrated Rogowski coils

Integrated transformer

Integration

Intelligent drive

Intelligent gate driver

Intelligent Power Module (IPM)

Intercell transformer

Interconnected microgrids
Interharmonics
Interleaved converters
Interleaved inverters
Interoperability
Inverter
Inverter design
Inverter-output filter
Iron losses
Islanded operation
Islanding detection
ISO 15118.20
Isolated bidirectional DC-DC converters
Isolated converter
Iterative learning
I-V signature
JFET
Junction temperature
Junction temperature control
Junction temperature estimation
Junction temperature measurement
Kalman Filter
Kelvin source
LC resonance
LCL
LCL-type inverter
Leakage current
Levelized cost of energy
Life Cycle Analysis (LCA)
Lifetime
Lighting
Linear drive
Linear time periodic systems
Lithium-ion
Lithium-ion battery
Litz wire
LLC resonant converter
LMI
Load commutation switch
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 energy harvesting
Magnetic leakage field
Magnetic saturation
Magnetics definition
Maintenance
Marine
Marx circuit
Marx generator
Matrix converter
Maximum Power Point Tracking (MPPT)
Maximum Power Point Tracking Quadratic Converters
Measurements
Mechanical layout
Mechatronics
Medium frequency
Medium frequency transformer
Medium voltage
Medium voltage converter
Medium voltage grid
Medium Voltage Power Module
Microcontrollers
Microgrid
Micro-inverter
Midpoint voltage balancer
Miniaturization
Mission profile
Model free control
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
Modular topologies
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-active bridge
Multi-agent system
Multi-axle drives
Multicopters and drones
Multi-energy microgrids
Multi-level converters
Multi-level hysteresis control
Multi-level inverters
Multi-level system
Multi-machine system
Multi-mode converter
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
Multi-terminal hybrid UHVDC
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 angle
Optimal control
Optimal efficiency drive
Optimization
Optimization algorithm
Optimization method
Optimized pulse pattern
Overcurrent capability
Overcurrent protection
Overload
Overmodulation
Overstaying problem
P&O MPPT
Packaging
Parallel Hybrid Converter
Parallel operation
Paralleling
Parameter identification
Parasitic elements
Parasitic inductance
Parasitic turn-on
Parasitics
Partial discharge
Partial-Power Processing
Particle accelerator
Particle filter
Passive component
Passive component integration

Passive filters

Passivity

PCB Bus

PD-PWM

Performance ratio

Permanent magnet

Permanent magnet motor

Permanent Magnet Synchronous Generator

Permeability

P-GaN regrowth

Phase-shedding

Phase-Shift Mode

Phasor measurement unit

Photovoltaic

Photovoltaic smoothing

Physics research

PI controller

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

Polarity comparison

Pole placement

Pole shift

Pole-phase changing

Polymer-epoxy

polypropylene film capacitor

Portable appliances

Position measurement

Positioning of converter

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 line inspection

Power losses

Power management

Power measurement

Power module

Power plant performance

Power quality

Power semiconductor device

Power sharing

Power supply

Power system

Power system stability

Power transmission

Power-to-X

Powertrain

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

PV inverter

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
Reinforcement Learning
Relative Gain Array
Reliability
Reluctance drive
Remote sensing
Renewable energy systems
Repetitive control
Residual current device
Resonant converter
Resonant peak damping strategies
Reverse recovery
RIE
Ripple minimization
Ripple port
Road vehicle
Robotic-arm charger
Robotics
Robust control
Robustness
Root trajectory
Rotor eccentricity cogging
Rotor temperature sensing
Safety
Saturation
Scalable
Scalable control
Schottky diode
Seamless transfer
Second-Order Generalized Integrator (SOGI)
Selective Harmonic Elimination (SHE)
Self-sensing control
Semiconductor device
Sensitivity analysis
Sensor
Sensorless control
Sensorless current sharing
Sensors
SEPIC converter
Series operation
Servo-drive
Shedding and restoration algorithms
Shielding modeling and methods

Ship
Shoot-through
Shore-to-ship charging
Short circuit
Short circuit current data exchange
Short-term
Shunt current
Shunt resistor
SiC MOSFET
SiC oscillation
Signal processing
Silicon Carbide (SiC)
Silicone gel
Silver sintering
Simulation
Sine filter
Single Active Bridge
Single phase system
Single-event burnout
Single-Inverter Multi-Motor
Single-stage
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
Three-stage generator
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 (THD)
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
Unclamped Inductive Switching
Uninterruptible Power Supply (UPS)
V/F control
V/Hz control
V2G
Vacuum micro-electronic device
Validation
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 GaN devices
voltage imbalance of series-connected IGBTs
Voltage ratio
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
Wet placement
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
Yokeless and segmented armature (YASA)
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
Z-source inverter
ZVS converters