

2021 Index

IEEE Transactions on Energy Conversion

Vol. 36

This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2021, and items from previous years that were commented upon or corrected in 2021. Departments and other items may also be covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Note that the item title is found only under the primary entry in the Author Index.

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Converters

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D

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DC motor drives

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DC motors

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An Analysis of Multi Objective Energy Scheduling in PV-BESS System Under Prediction Uncertainty. *Nair, U.R.*, +, *TEC Sept. 2021 2276-2286*

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Novel Data-Driven Approach Based on Capsule Network for Intelligent Multi-Fault Detection in Electric Motors. *Chen, J.*, +, *TEC Sept. 2021 2173-2184*

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Optimal Decision on Current Sharing and Voltage Balancing in DC Microgrids With Feedforward Input. *Lu, Z.*, +, *TEC Sept. 2021 2545-2555*

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- Composite Super-Twisting Sliding Mode Control Design for PMSM Speed Regulation Problem Based on a Novel Disturbance Observer. *Hou, Q.*, +, *TEC Dec. 2021 2591-2599*

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- Improving Annual Energy Production of Doubly-Fed Induction Generators. *Wang, X.*, +, *TEC Dec. 2021 3405-3413*
- Mechanism Analysis and Damping Method for High Frequency Resonance Between VSC-HVDC and the Wind Farm. *Pang, B.*, +, *TEC June 2021 984-994*

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Eddy current losses

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Design of Ultra-High-Speed Motor for FCEV Air Compressor Considering Mechanical Properties of Rotor Materials. *Kim, J.*, +, *TEC Dec. 2021 2850-2860*

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- Modeling and Analysis of Inner Controls Effects on Damping and Synchronizing Torque Components in VSG-Controlled Converter. *Qu, Z.*, +, *TEC March 2021 488-499*
- Modulated MPC for Arm Inductor-Less MVDC MMC With Reduced Computational Burden. *Martin, S.*, +, *TEC Sept. 2021 1776-1786*
- Multiple Open-Switch Fault Diagnosis for Five-Phase Permanent Magnet Machine Utilizing Currents in Stationary Reference Frame. *Kong, J.*, +, *TEC March 2021 314-324*
- Torque Ripple Reduction Method for Permanent Magnet Synchronous Machine Drives With Novel Harmonic Current Control. *Qu, J.*, +, *TEC Sept. 2021 2502-2513*
- Electric current measurement**
- A Rectangular End-Winding Model for Enhanced Circulating Current Prediction in AC Machines. *Maurer, F.*, +, *TEC March 2021 291-299*
- Electric fields**
- Ground-Wall Insulation Structure Optimization Method Research Based on Composite Material for Stator Bars. *Sun, Y.*, +, *TEC June 2021 1005-1013*
- Electric generators**
- A Consequent-Pole Hybrid Exciter for Synchronous Generators. *Nuzzo, S.*, +, *TEC March 2021 368-379*
- Electric machine analysis computing**
- Mechanical and Magnetic Pivot Roles of Tooth in Vibration of Electrical Machines. *Wang, S.*, +, *TEC March 2021 139-148*
- Electric machines**
- Effects of Manufacturing Processes on Core Losses of Electrical Machines. *Sundaria, R.*, +, *TEC March 2021 197-206*
- Gaussian Process Kernel Transfer Enabled Method for Electric Machines Intelligent Faults Detection With Limited Samples. *Chen, J.*, +, *TEC Dec. 2021 3481-3490*
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- Influence of Insulation Thermal Aging on the Temperature Assessment in Electrical Machines. *Madonna, V.*, +, *TEC March 2021 456-467*
- Shape Optimization of Rotating Electric Machines Using Isogeometric Analysis. *Merkel, M.*, +, *TEC Dec. 2021 2683-2690*
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- Novel Data-Driven Approach Based on Capsule Network for Intelligent Multi-Fault Detection in Electric Motors. *Chen, J.*, +, *TEC Sept. 2021 2173-2184*
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- A Stator-PM Resolver With Field Modulation Principle. *Sun, L.*, +, *TEC March 2021 159-172*
- Distribution Design of Modulator for Split-Pole Flux-Modulation Permanent-Magnet Machine. *Zhu, X.*, +, *TEC Sept. 2021 1614-1624*
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- LightGBM Technique and Differential Evolution Algorithm-Based Multi-Objective Optimization Design of DS-APMM. *Pan, Z.*, +, *TEC March 2021 441-455*
- Method for the Prediction of the Potential Distribution in Electrical Machine Windings Under Pulse Voltage Stress. *Hoffmann, A.*, +, *TEC June 2021 1180-1187*
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- Performance Analysis of a Coreless Axial-Flux PMSM by an Improved Magnetic Equivalent Circuit Model. *Zhao, J.*, +, *TEC Sept. 2021 2120-2130*
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- Teethed-Pole Switched Reluctance Motors Assisted With Permanent Magnets: Analysis and Evaluation. *Jalali Kondelaji, M.A.*, +, *TEC Sept. 2021 2131-2140*
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- Large-Signal Stability Improvement of DC-DC Converters in DC Microgrid. *Gui, Y.*, +, *TEC Sept. 2021 2534-2544*
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- Variable-Frequency Retuned WPT System for Power Transfer and Efficiency Improvement in Dynamic EV Charging With Fixed Voltage Characteristic. *Babaki, A.*, +, *TEC Sept. 2021 2141-2151*
- Electric vehicles**
- A Novel Asymmetric Interior Permanent Magnet Machine for Electric Vehicles. *Xiao, Y.*, +, *TEC Sept. 2021 2404-2415*
- Dynamic Thermal Model for Winding Temperature of an SRM in an Integrated Battery Charger Utilized in Electric Vehicles. *Rahnamaei, S.R.*, +, *TEC Sept. 2021 1766-1775*
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- System-Level Robust Design Optimization of a Switched Reluctance Motor Drive System Considering Multiple Driving Cycles. *Diao, K.*, +, *TEC March 2021 348-357*
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- Electrochemistry**
- Toward Fast and Accurate SOH Prediction for Lithium-Ion Batteries. *Shen, S.*, +, *TEC Sept. 2021 2036-2046*
- Electrodes**
- Electrochemical Model-Based Fast Charging: Physical Constraint-Triggered PI Control. *Li, Y.*, +, *TEC Dec. 2021 3208-3220*
- Ground-Wall Insulation Structure Optimization Method Research Based on Composite Material for Stator Bars. *Sun, Y.*, +, *TEC June 2021 1005-1013*
- Electromagnetic actuators**
- Design and Analysis of a Novel Modular Electromagnetic Actuator for Micro-Nano Satellite Application. *Zhang, H.*, +, *TEC March 2021 402-411*
- Electromagnetic compatibility**
- Analytical Modeling of Flux-Reversal Permanent-Magnet Machines. *Fardonbeh, V.Z.*, +, *TEC June 2021 1121-1130*
- Electromagnetic devices**
- An Analytical-Numerical Approach to Model and Analyse Squirrel Cage Induction Motors. *Marfoli, A.*, +, *TEC March 2021 421-430*
- Research on Heat Dissipation Optimization of a Novel Liquid-Cooling Eddy Current Brake. *Tian, J.*, +, *TEC March 2021 131-138*
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- Leakage Current Suppression in Double Stage SECS Enabling Harmonics Suppression Capabilities. *Shah, P.*, +, *TEC March 2021 186-196*

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A Parameterized Linear 3D Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic Gears—Part I: Implementation. *Johnson, M.*, +, *TEC Dec. 2021 2894-2902*

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Model Predictive Control of Smart Districts With Fifth Generation Heating and Cooling Networks. *Taylor, M.*, +, *TEC Dec. 2021 2659-2669*

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- Study of the Total Demagnetization Fault of an AFPM Wind Generator. *Barmpatza, A.C.*, +, *TEC June 2021 725-736*

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- A Parameterized Linear 3D Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic Gears—Part I: Implementation. *Johnson, M.*, +, *TEC Dec. 2021 2894-2902*

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- Axial Flux Topology Based Control Moment Gyroscope for Integrated Speed and Tilt Control. *Kant, K.*, +, *TEC Dec. 2021 3387-3394*
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- Stray Flux-Based Rotation Angle Measurement for Bearing Fault Diagnosis in Variable-Speed BLDC Motors. *Wang, X.*, +, *TEC Dec. 2021 3156-3166*
- Magnetic separation**
- Design of an Energy Efficient Line-Start Two-Pole Ferrite Assisted Synchronous Reluctance Motor for Water Pumps. *Baka, S.*, +, *TEC June 2021 961-970*
- Magnetic shielding**
- Design and Analysis of a Novel Modular Electromagnetic Actuator for Micro-Nano Satellite Application. *Zhang, H.*, +, *TEC March 2021 402-411*
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- Manufacturing processes**
- Effects of Manufacturing Processes on Core Losses of Electrical Machines. *Sundaria, R.*, +, *TEC March 2021 197-206*
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- Self-Healing Predictive Control of Battery System in Naval Power System With Pulsed Power Loads. *Hosseinzadehtaher, M.*, +, *TEC June 2021 1056-1069*
- Markov processes**
- Data-Driven Stochastic Model Predictive Control for DC-Coupled Residential PV-Storage Systems. *Shirsat, A.*, +, *TEC June 2021 1435-1448*
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- A Comprehensive Analysis on the Healthy and Faulty Two Types VR-Resolvers With Eccentricity and Inter-Turn Faults. *Naderi, P.*, +, *TEC Dec. 2021 3502-3511*
- A High Precision Method for Induction Machine Parameters Estimation From Manufacturer Data. *Amaral, G.F.V.*, +, *TEC June 2021 1226-1233*
- A Modified Inverse Vector Hysteresis Model for Nonoriented Electrical Steels Considering Anisotropy for FEA. *Yue, S.*, +, *TEC Dec. 2021 3251-3260*
- A Novel Approach for Direct MPP Estimation of a PV Module Under Different Irradiation Conditions. *Sahu, H.S.*, +, *TEC Dec. 2021 3127-3136*
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- Application of State Feedback Controller to Ensure Robust D-Stable Operation of Virtual Synchronous Generators. *Pourmohammad, M.*, +, *TEC June 2021 602-610*
- Composite Super-Twisting Sliding Mode Control Design for PMSM Speed Regulation Problem Based on a Novel Disturbance Observer. *Hou, Q.*, +, *TEC Dec. 2021 2591-2599*
- Design of a Linear Time-Varying Model Predictive Control Energy Regulator for Grid-Tied VSCs. *Rodriguez-Bernuz, J.*, +, *TEC June 2021 1425-1434*
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- Equivalent Broadband Electrical Circuit of Synchronous Machine Winding for Frequency Response Analysis Based on Gray Box Model. *Zhao, Z.*, +, *TEC Dec. 2021 3512-3521*
- Field Enhancing Model Predictive Direct Torque Control of Permanent Magnet Synchronous Machine. *Zhang, K.*, +, *TEC Dec. 2021 2924-2933*
- Fourier-Based Modeling of an Induction Machine Considering the Finite Permeability and Nonlinear Magnetic Properties. *Mollaeian, A.*, +, *TEC Dec. 2021 3427-3437*
- Impedance Modeling and Stability Analysis of VSG Controlled Type-IV Wind Turbine System. *Xu, Y.*, +, *TEC Dec. 2021 3438-3448*
- Induction Machine Modeling Considering Magnetizing Flux Saturation With Air-Gap Harmonics. *Amiri, N.*, +, *TEC Dec. 2021 3376-3386*
- Internal Model Principle Method to Robust Output Voltage Tracking Control for Single-Phase UPS Inverters With Its SPWM Implementation. *Peng, Y.*, +, *TEC June 2021 841-852*
- Model Predictive Controller Utilized as an Observer for Inter-Turn Short Circuit Detection in Induction Motors. *Sahin, I.*, +, *TEC June 2021 1449-1458*
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- Model-Free Predictive Current Control for Three-Level Inverter-Fed IPMSM With an Improved Current Difference Updating Technique. *Yu, F.*, +, *TEC Dec. 2021 3334-3343*
- Neural Network Based Model Predictive Controllers for Modular Multilevel Converters. *Wang, S.*, +, *TEC June 2021 1562-1571*
- Non-Linear Model and Parameter Extraction for Charge/Discharge Behavior of Valve Regulated Lead-Acid Battery. *Lavety, S.*, +, *TEC Dec. 2021 2600-2611*
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- Using Flux Linkage Difference Vector in Early Inter-Turn Short Circuit Detection for the Windings of Offshore Wind DFIGs. *Fu, Y.*, +, *TEC Dec. 2021 3007-3015*
- Matrix algebra**
- Block Diagonal Dominance-Based Model Reduction Method Applied to MMC Asymmetric Stability Analysis. *Zong, H.*, +, *TEC Sept. 2021 2438-2451*
- Matrix converters**
- Model-Based Predictive Rotor Current Control Strategy for Indirect Power Control of a DFIM Driven by an Indirect Matrix Converter. *Oloqui, A.*, +, *TEC June 2021 1510-1516*
- Maximum power point trackers**
- Module Level Electronic Circuit Based PV Array for Identification and Reconfiguration of Bypass Modules. *Murtaza, A.F.*, +, *TEC March 2021 380-389*
- Optimization for DFIG Fast Frequency Response With Small-Signal Stability Constraint. *Huang, J.*, +, *TEC Sept. 2021 2452-2462*
- Voltage and Current Reference Based MPPT Under Rapidly Changing Irradiance and Load Resistance. *Jately, V.*, +, *TEC Sept. 2021 2297-2309*
- Mean square error methods**
- Voltage and Frequency Consensusability of Autonomous Microgrids Over Fading Channels. *Dehkordi, N.M.*, +, *TEC March 2021 149-158*
- Measurement uncertainty**
- A Closed-Form Analytical Method for Reliable Estimation of Equivalent Thermal Conductivity of Windings With Round-Profile Conductors. *Sun, Z.*, +, *TEC June 2021 1143-1155*
- Robust Model Predictive Control of DC-DC Floating Interleaved Boost Converter With Multiple Uncertainties. *Sartipizadeh, H.*, +, *TEC June 2021 1403-1412*
- Mechanical engineering computing**
- Electric Machine Bearing Health Monitoring and Ball Fault Detection by Simultaneous Thermo-Mechanical Fibre Optic Sensing. *Mohammed, A.*, +, *TEC March 2021 71-80*
- Thermal and Electromagnetic Stator Vent Design Optimisation for Synchronous Generators. *Bersch, K.*, +, *TEC March 2021 207-217*
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- A Cooperative Rate-Based Model Predictive Framework for Flexibility Management of DERs. *Subramanian, L.*, +, *TEC Dec. 2021 2724-2733*
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- Application of State Feedback Controller to Ensure Robust D-Stable Operation of Virtual Synchronous Generators. *Pourmohammad, M.*, +, *TEC June 2021 602-610*
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- Frequency Response of Motor Drive Loads in Microgrids. *Ryan, D.J.*, +, *TEC June 2021 1197-1206*
- Guest Editorial Model Predictive Control in Energy Conversion Systems. *Dragicevic, T.*, +, *TEC June 2021 1311-1312*
- Modular Hierarchical Model Predictive Control for Coordinated and Holistic Energy Management of Buildings. *Vasak, M.*, +, *TEC Dec. 2021 2670-2682*
- Optimization-Based Fast-Frequency Estimation and Control of Low-Inertia Microgrids. *Tamrakar, U.*, +, *TEC June 2021 1459-1468*
- Power Management for Islanded Hybrid AC/DC Microgrid With Low-bandwidth Communication. *Shen, X.*, +, *TEC Dec. 2021 2646-2658*
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- Varying Negative Sequence Virtual Impedance Adaptively for Enhanced Unbalanced Power Sharing Among DGs in Islanded AC Microgrids. *Vijay, A.S.*, +, *TEC Dec. 2021 3271-3281*
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- A Closed-Form Analytical Method for Reliable Estimation of Equivalent Thermal Conductivity of Windings With Round-Profile Conductors. *Sun, Z.*, +, *TEC June 2021 1143-1155*
- Modulation**
- A Current Allocation Strategy Based Balancing Technique of Voltage Source String in Switch-Ladder Inverter and Its Switched-Capacitor Variety. *Fong, Y.C.*, +, *TEC June 2021 1081-1089*
- A Parameterized Linear 3D Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic Gears—Part II: Evaluation. *Johnson, M.*, +, *TEC Dec. 2021 2903-2911*
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- Design of a Linear Time-Varying Model Predictive Control Energy Regulator for Grid-Tied VSCs. *Rodriguez-Bernuz, J.*, +, *TEC June 2021 1425-1434*
- Model Predictive Control of PMSM Drives Based on General Discrete Space Vector Modulation. *Zhang, Y.*, +, *TEC June 2021 1300-1307*
- Sensorless Drive Strategy of Open-End Winding PMSM With Zero-Sequence Current Suppression. *Liu, C.*, +, *TEC Dec. 2021 2987-2997*
- Motor drives**
- Adaptive Predefined Performance Sliding Mode Control of Motor Driving Systems With Disturbances. *Wang, S.*, +, *TEC Sept. 2021 1931-1939*
- Analysis and Control of Wireless Motor Drives With a Single Inverter in Primary Side. *Babaki, A.*, +, *TEC June 2021 930-939*
- Current Optimization-Based Fault-Tolerant Control of Standard Three-Phase PMSM Drives. *Wang, X.*, +, *TEC June 2021 1023-1035*
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- Motorcycles**
- Coupled Magnetic Field-Thermal Network Analysis of Modular-Spoke-Type Permanent-Magnet Machine for Electric Motorcycle. *Yu, W.*, +, *TEC March 2021 120-130*
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- Voltage and Frequency Consensusability of Autonomous Microgrids Over Fading Channels. *Dehkordi, N.M.*, +, *TEC March 2021 149-158*
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- Research on Heat Dissipation Optimization of a Novel Liquid-Cooling Eddy Current Brake. *Tian, J.*, +, *TEC March 2021 131-138*
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- Robust Design Optimization of Switched Reluctance Motor Drive Systems Based on System-Level Sequential Taguchi Method. *Diao, K.*, +, *TEC Dec. 2021 3199-3207*
- Rotor Design Optimization of Squirrel Cage Induction Motor - Part I: Problem Statement. *Marfoli, A.*, +, *TEC June 2021 1271-1279*
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- Shape Optimization of Rotating Electric Machines Using Isogeometric Analysis. *Merkel, M.*, +, *TEC Dec. 2021 2683-2690*
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- Adequacy of the Single-Generator Equivalent Model for Stability Analysis in Wind Farms With VSC-HVDC Systems. *Shao, B.*, +, *TEC June 2021 907-918*
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- Assessing the Impact of Reactive Power Droop on Inverter Based Microgrid Stability. *Lasheen, A.*, +, *TEC Sept. 2021 2380-2392*
- Coordinated Control of Networked AC/DC Microgrids With Adaptive Virtual Inertia and Governor-Gain for Stability Enhancement. *Zhang, Y.*, +, *TEC March 2021 95-110*
- DC Current and Voltage Droop Control Method of Hybrid HVDC Systems for an Offshore Wind Farm Connection to Enhance AC Voltage Stability. *Lee, G.*, +, *TEC March 2021 468-479*
- Decentralized Frequency Control for Black Start of Full-Converter Wind Turbines. *Pena Asensio, A.*, +, *TEC March 2021 480-487*
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- Fuzzy Controller-Based Self-Adaptive Virtual Synchronous Machine for Microgrid Application. *Thomas, V.*, +, *TEC Sept. 2021 2427-2437*
- Operation Limits of Grid-Tied Photovoltaic Inverters With Harmonic Current Compensation Based on Capability Curves. *Rodrigues de Jesus, V.M.*, +, *TEC Sept. 2021 2088-2098*
- Self-Regulated Solar PV Systems: Replacing Battery via Virtual Inertia Reserve. *Saxena, P.*, +, *TEC Sept. 2021 2185-2194*
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- Voltage and Frequency Consensusability of Autonomous Microgrids Over Fading Channels. *Dehkordi, N.M.*, +, *TEC March 2021 149-158*
- Power generation dispatch**
- Multi-Energy Microgrid Planning Considering Heat Flow Dynamics. *Heleno, M.*, +, *TEC Sept. 2021 1962-1971*
- Power generation economics**
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- Power grids**
- A Centralized Control Strategy for Grid-Connected High-Speed Switched Reluctance Motor Drive System With Power Factor Correction. *Tang, Y.*, +, *TEC Sept. 2021 2163-2172*
- A New Transformer-Less Common Grounded Three-Level Grid-Tied Inverter With Voltage Boosting Capability. *Kurdkandi, N.V.*, +, *TEC Sept. 2021 1896-1909*
- A Third-Order MAF Based QT1-PLL That is Robust Against Harmonically Distorted Grid Voltage With Frequency Deviation. *Mellouli, M.*, +, *TEC Sept. 2021 1600-1613*
- A Three-Phase Digital Current Controller Using Error-Free Feedback Acquisition With Half Delay. *Shen, H.*, +, *TEC Sept. 2021 1660-1672*
- Active Disturbance Rejection Control Based Single Current Feedback Resonance Damping Strategy for LCL-Type Grid-Connected Inverter. *Ma, W.*, +, *TEC March 2021 48-62*
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- Asynchronous Grid Connection of a Cage Induction Generator Excited by a Power Electronic Converter. *Goarski, D.A.*, +, *TEC March 2021 63-70*
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- Enhanced Hierarchical Control Framework of Microgrids With Efficiency Improvement and Thermal Management. *Wang, Y.*, +, *TEC March 2021 11-22*
- Experimental Validation of a Hybrid Storage Framework to Cope With Fluctuating Power of Hybrid Renewable Energy-Based Systems. *Naderi, E.*, +, *TEC Sept. 2021 1991-2001*
- Fuzzy Controller-Based Self-Adaptive Virtual Synchronous Machine for Microgrid Application. *Thomas, V.*, +, *TEC Sept. 2021 2427-2437*
- Identifying DQ-Domain Admittance Models of a 2.3-MVA Commercial Grid-Following Inverter via Frequency-Domain and Time-Domain Data. *Fan, L.*, +, *TEC Sept. 2021 2463-2472*
- Inclusion of Current Limiter Nonlinearity in the Characteristic Analysis of Sustained Subsynchronous Oscillations in Grid-Connected PMSGs. *Wu, T.*, +, *TEC Sept. 2021 2416-2426*
- Leakage Current Suppression in Double Stage SECS Enabling Harmonics Suppression Capabilities. *Shah, P.*, +, *TEC March 2021 186-196*
- Modeling and Analysis of Inner Controls Effects on Damping and Synchronizing Torque Components in VSG-Controlled Converter. *Qu, Z.*, +, *TEC March 2021 488-499*
- Modeling and Analysis of SOGI-PLL/FLL-Based Synchronization Units: Stability Impacts of Different Frequency-Feedback Paths. *Zhang, C.*, +, *TEC Sept. 2021 2047-2058*
- Multi-Parameter Collaborative Power Prediction to Improve the Efficiency of Supercapacitor-Based Regenerative Braking System. *Zhang, H.*, +, *TEC Dec. 2021 2612-2622*
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- Power harmonic filters**
- Analysis and Design of Hybrid Harmonic Suppression Scheme for VSG Considering Nonlinear Loads and Distorted Grid. *Lou, G.*, +, *TEC Dec. 2021 3096-3107*
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- Power inductors**
- An Improved Multilevel Inverter for Single-Phase Transformerless PV System. *Faraji, F.*, +, *TEC March 2021 281-290*
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Thermal Performance Improvement in Multi-Megawatt Power Converters Serving to Asynchronous Hydro Generators Operating Around Synchronous Speed. *Desingu, K.*, +, *TEC Sept. 2021 1818-1830*

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A New Transformer-Less Common Grounded Three-Level Grid-Tied Inverter With Voltage Boosting Capability. *Kurdkandi, N.V.*, +, *TEC Sept. 2021 1896-1909*

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Modulated MPC for Arm Inductor-Less MVDC MMC With Reduced Computational Burden. *Martin, S.*, +, *TEC Sept. 2021 1776-1786*

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Optimization-Based Fast-Frequency Estimation and Control of Low-Inertia Microgrids. *Tamrakar, U.*, +, *TEC June 2021 1459-1468*

Self-Healing Predictive Control of Battery System in Naval Power System With Pulsed Power Loads. *Hosseinzadehtaher, M.*, +, *TEC June 2021 1056-1069*

Stability Assessment and Damping Optimization Control of Multiple Grid-connected Virtual Synchronous Generators. *Sun, P.*, +, *TEC Dec. 2021 3555-3567*

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Optimal Control of Lossy Energy Storage Systems With Nonlinear Efficiency Based on Dynamic Programming and Pontryagin's Minimum Principle. *Chowdhury, N.R.*, +, *TEC March 2021 524-533*

Power system harmonics

Coupled Finite Element and Extended-QD Circuit Induction Machine Model, Part II: Implementation. *Sayed, A.*, +, *TEC Sept. 2021 2565-2573*

Diagnosis of Rotor Winding Short-Circuit Fault in Multi-Phase Annular Brushless Exciter Through Stator Field Current Harmonics. *Hao, L.*, +, *TEC Sept. 2021 1808-1817*

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Methods to Improve the Cogging Torque Robustness Under Manufacturing Tolerances for the Permanent Magnet Synchronous Machine. *Yang, Y.*, +, *TEC Sept. 2021 2152-2162*

Simultaneous Wireless Power and Information Transfer Based on Phase-Shift Modulation in ICPT System. *Xia, C.*, +, *TEC June 2021 629-639*

Vector Control Applied to Mitigate the Electromagnetic Torque Ripple in Doubly Fed Induction Generator. *de Santana, M.P.*, +, *TEC Dec. 2021 2977-2986*

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Decentralized Frequency Control for Black Start of Full-Converter Wind Turbines. *Pena Asensio, A.*, +, *TEC March 2021 480-487*

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- Frequency Response of Motor Drive Loads in Microgrids. *Ryan, D.J.*, +, *TEC June 2021 1197-1206*
- Hybrid Model Predictive Control of DC–DC Boost Converters With Constant Power Load. *Karami, Z.*, +, *TEC June 2021 1347-1356*
- Impedance Analysis of Voltage Source Converter Using Direct Power Control. *Gao, S.*, +, *TEC June 2021 831-840*
- Impedance Modeling and Stability Analysis of VSG Controlled Type-IV Wind Turbine System. *Xu, Y.*, +, *TEC Dec. 2021 3438-3448*
- Large-Signal Stability Improvement of DC-DC Converters in DC Microgrid. *Gui, Y.*, +, *TEC Sept. 2021 2534-2544*
- Line Inductance Stability Operation Domain Assessment for Weak Grids With Multiple Constant Power Loads. *Rui, W.*, +, *TEC June 2021 1045-1055*
- Mechanical Stress Comparison of PMSG Wind Turbine LVRT Methods. *Zhou, A.*, +, *TEC June 2021 682-692*
- Model-Free Voltage Control for Inverter-Based Energy Resources: Algorithm, Simulation and Field Test Verification. *Liu, H.*, +, *TEC June 2021 1207-1215*
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- Reduced-Order Modeling and Comparative Dynamic Analysis of DC Voltage Control in DC Microgrids Under Different Droop Methods. *Li, P.*, +, *TEC Dec. 2021 3317-3333*
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- Self-Healing Predictive Control of Battery System in Naval Power System With Pulsed Power Loads. *Hosseinzadehtaher, M.*, +, *TEC June 2021 1056-1069*
- Self-Regulated Solar PV Systems: Replacing Battery via Virtual Inertia Reserve. *Saxena, P.*, +, *TEC Sept. 2021 2185-2194*
- Source-Side Virtual RC Damper-Based Stabilization Technique for Cascaded Systems in DC Microgrids. *Lorzadeh, O.*, +, *TEC Sept. 2021 1883-1895*
- Stability Analysis and Impedance Reshaping Method for DC Resonance in VSCs-based Power System. *Nian, H.*, +, *TEC Dec. 2021 3344-3354*
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- Voltage and Current Reference Based MPPT Under Rapidly Changing Irradiance and Load Resistance. *Jatley, V.*, +, *TEC Sept. 2021 2297-2309*
- Power system state estimation**
- Toward Fast and Accurate SOH Prediction for Lithium-Ion Batteries. *Shen, S.*, +, *TEC Sept. 2021 2036-2046*
- Power system transient stability**
- Adaptive Heterogeneous Transient Analysis of Wind Farm Integrated Comprehensive AC/DC Grids. *Lin, N.*, +, *TEC Sept. 2021 2370-2379*
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- Power transformers**
- A Third-Order MAF Based QT1-PLL That is Robust Against Harmonically Distorted Grid Voltage With Frequency Deviation. *Mellouli, M.*, +, *TEC Sept. 2021 1600-1613*
- Power transmission**
- Simultaneous Wireless Power and Information Transfer Based on Phase-Shift Modulation in ICPT System. *Xia, C.*, +, *TEC June 2021 629-639*
- Power transmission (mechanical)**
- Investigation Into Periodic Signal-Based Dithering Modulations for Suppression Sideband Vibro-Acoustics in PMSM Used by Electric Vehicles. *Qiu, Z.*, +, *TEC Sept. 2021 1787-1796*
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- Prediction algorithms**
- An Optimal Reduced-Control-Set Model Predictive Flux Control For 3L-NPC Fed Induction Motor Drive. *Osman, I.*, +, *TEC Dec. 2021 2967-2976*
- Design of a Linear Time-Varying Model Predictive Control Energy Regulator for Grid-Tied VSCs. *Rodriguez-Bernuz, J.*, +, *TEC June 2021 1425-1434*
- Stable Shortest Horizon FCS-MPC Output Voltage Control in Non-Minimum Phase Boost-Type Converters Based on Input-State Linearization. *Villarroel, F.A.*, +, *TEC June 2021 1378-1391*
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- A Centralized Control Strategy for Grid-Connected High-Speed Switched Reluctance Motor Drive System With Power Factor Correction. *Tang, Y.*, +, *TEC Sept. 2021 2163-2172*
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- A Review of Predictive Control Techniques for Switched Reluctance Machine Drives. Part I: Fundamentals and Current Control. *Valencia, D.F.*, +, *TEC June 2021 1313-1322*
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- Carrier-Based Modulated Model Predictive Control Strategy for Three-Phase Two-Level VSIs. *Xu, J.*, +, *TEC Sept. 2021 1673-1687*
- Cascaded Predictive Flux Control for a 3-L Active NPC Fed IM Drives Without Weighting Factor. *Xiao, D.*, +, *TEC Sept. 2021 1797-1807*
- Current Prediction Error Based Parameter Identification Method for SPMSM With Deadbeat Predictive Current Control. *Zhou, Y.*, +, *TEC Sept. 2021 1700-1710*
- Finite Control Set – Model Predictive Control Based On Sliding Mode For Bidirectional Power Inverter. *Estrada, L.*, +, *TEC Dec. 2021 2814-2824*
- Grid-Aware Distributed Model Predictive Control of Heterogeneous Resources in a Distribution Network: Theory and Experimental Validation. *Gupta, R.*, +, *TEC June 2021 1392-1402*
- Guest Editorial Model Predictive Control in Energy Conversion Systems. *Dragicevic, T.*, +, *TEC June 2021 1311-1312*
- Leakage Current Suppression in Double Stage SECS Enabling Harmonics Suppression Capabilities. *Shah, P.*, +, *TEC March 2021 186-196*
- Model Predictive Controller Utilized as an Observer for Inter-Turn Short Circuit Detection in Induction Motors. *Sahin, I.*, +, *TEC June 2021 1449-1458*
- Modular Hierarchical Model Predictive Control for Coordinated and Holistic Energy Management of Buildings. *Vasak, M.*, +, *TEC Dec. 2021 2670-2682*
- Modulated MPC for Arm Inductor-Less MVDC MMC With Reduced Computational Burden. *Martin, S.*, +, *TEC Sept. 2021 1776-1786*
- Neural Network Based Model Predictive Controllers for Modular Multilevel Converters. *Wang, S.*, +, *TEC June 2021 1562-1571*
- Robust Model Predictive Control of DC-DC Floating Interleaved Boost Converter With Multiple Uncertainties. *Sartipizadeh, H.*, +, *TEC June 2021 1403-1412*

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- A Rectangular End-Winding Model for Enhanced Circulating Current Prediction in AC Machines. *Maurer, F.*, +, *TEC March 2021 291-299*
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- An Analytical Model and Optimization of a Novel Hybrid Rotor Machine for High Torque Density. *Liu, Y.*, +, *TEC March 2021 230-241*
- An Analytical-Numerical Approach to Model and Analyse Squirrel Cage Induction Motors. *Marfoli, A.*, +, *TEC March 2021 421-430*
- An ANOVA-Based Fault Diagnosis Approach for Variable Frequency Drive-Fed Induction Motors. *Shabbir, M.N.S.K.*, +, *TEC March 2021 500-512*
- An Improved Finite-Control-Set Model Predictive Flux Control for Asymmetrical Six-Phase PMSMs With a Novel Duty-Cycle Regulation Strategy. *Yu, F.*, +, *TEC June 2021 1289-1299*
- An Optimal Reduced-Control-Set Model Predictive Flux Control For 3L-NPC Fed Induction Motor Drive. *Osman, I.*, +, *TEC Dec. 2021 2967-2976*
- Analysis of End-Windings Influence on the Transient Voltage Distribution in Machine Stator Windings by a Three Phase Model. *Sousa Ferreira, R.*, +, *TEC Sept. 2021 2110-2119*
- Analysis of Open-Circuit Performances in Flux-Reversal Permanent Magnet Machines by Superposition Methods. *Zhu, X.*, +, *TEC Dec. 2021 3073-3083*
- Analytical Design of Coreless Axial-Flux Permanent Magnet Machine With Planar Coils. *Frank, Z.*, +, *TEC Sept. 2021 2348-2357*
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- Comparison Between Dual-Armature Linear Switched Flux Permanent Magnet Machine and Linear Surface-Mounted Permanent Magnet Machine Considering Thermal Conditions. *Zhang, L.*, +, *TEC Dec. 2021 3522-3532*
- Composite Super-Twisting Sliding Mode Control Design for PMSM Speed Regulation Problem Based on a Novel Disturbance Observer. *Hou, Q.*, +, *TEC Dec. 2021 2591-2599*
- Current Prediction Error Based Parameter Identification Method for SPMSM With Deadbeat Predictive Current Control. *Zhou, Y.*, +, *TEC Sept. 2021 1700-1710*
- Diagnosis of Rotor Winding Short-Circuit Fault in Multi-Phase Annular Brushless Exciter Through Stator Field Current Harmonics. *Hao, L.*, +, *TEC Sept. 2021 1808-1817*
- Double-Side Voltage-Behind-Reactance Model of Brushless Exciter in Aircraft Wound-Rotor Synchronous Starter-Generator Considering Magnetic Saturation. *Jiao, N.*, +, *TEC Sept. 2021 2358-2369*
- Effects of Manufacturing Processes on Core Losses of Electrical Machines. *Sundaria, R.*, +, *TEC March 2021 197-206*
- Fast Initial Rotor Position Estimation for IPMSM With Unipolar Sequence-Pulse Injection. *Lin, K.*, +, *TEC Dec. 2021 3545-3554*
- Flux-Weakening Control for Variable Flux Reluctance Machine Excited by Zero-Sequence Current Considering Zero-Sequence Resistive Voltage Drop. *Guo, J.*, +, *TEC March 2021 272-280*
- Geometrical Equivalence Principle Based Modeling and Analysis for Monolayer Halbach Array Spherical Motor With Cubic Permanent Magnets. *Zhou, S.*, +, *TEC Dec. 2021 3241-3250*
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- Investigation of Novel Doubly Salient Hybrid Excited Machine With Non-Overlapped Field Winding. *Cai, S.*, +, *TEC Sept. 2021 2261-2275*
- LightGBM Technique and Differential Evolution Algorithm-Based Multi-Objective Optimization Design of DS-APMM. *Pan, Z.*, +, *TEC March 2021 441-455*
- Mechanical and Magnetic Pivot Roles of Tooth in Vibration of Electrical Machines. *Wang, S.*, +, *TEC March 2021 139-148*
- Mechanical Stress Comparison of PMSG Wind Turbine LVRT Methods. *Zhou, A.*, +, *TEC June 2021 682-692*
- Model Predictive Control of PMSM Drives Based on General Discrete Space Vector Modulation. *Zhang, Y.*, +, *TEC June 2021 1300-1307*
- Model Predictive Thrust Force Control for Linear Motor Actuator used in Active Suspension. *Sun, X.*, +, *TEC Dec. 2021 3063-3072*
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- Modeling of a Novel 12-Stator-Pole/10-Rotor-Tooth Doubly-Fed Flux-Switching Permanent Magnet Machine. *Zhu, J.*, +, *TEC Sept. 2021 2206-2216*
- Modeling of the Partial Discharge Process Between the Winding and the Stator of Low Voltage Machines for Traction Applications. *Pauli, F.*, +, *TEC Sept. 2021 2310-2318*
- Modified Core Loss Calculation for High-Speed PMSMs With Amorphous Metal Stator Cores. *Tong, W.*, +, *TEC March 2021 560-569*
- Multiobjective and Multiphysics Design Optimization of a Switched Reluctance Motor for Electric Vehicle Applications. *Sun, X.*, +, *TEC Dec. 2021 3294-3304*
- On Phase Shifting and Diversified Coil-Pitch for Enhanced Multiobjective Winding Design Optimization. *Silva, A.M.*, +, *TEC Sept. 2021 2002-2011*
- Performance Analysis of a Coreless Axial-Flux PMSM by an Improved Magnetic Equivalent Circuit Model. *Zhao, J.*, +, *TEC Sept. 2021 2120-2130*
- Performance Investigation of Consequent-Pole PM Machines With E-core and C-core Modular Stators. *Zhou, R.*, +, *TEC June 2021 1169-1179*
- Rotor Design Optimization of Squirrel Cage Induction Motor - Part I: Problem Statement. *Marfoli, A.*, +, *TEC June 2021 1271-1279*
- Rotor Temperature Virtual Sensing for Induction Machines Using a Lumped-Parameter Thermal Network and Dual Kalman Filtering. *Phuc, P.N.*, +, *TEC Sept. 2021 1688-1699*
- Semi-Analytical Calculation of No-Load Radial and Tangential Electromagnetic Force Waves of a Non-Salient Pole Synchronous Generator. *Su, W.*, +, *TEC Dec. 2021 2956-2966*
- Six-Phase Pole-Changing Winding Induction Machines With Improved Performance. *Mallampalli, S.*, +, *TEC March 2021 534-546*
- Slot Number Thermal Effects on Electrical Machines. *Zhang, F.*, +, *TEC March 2021 23-35*
- Stator Electrical Fault Detection in DFIGs Using Wide-Band Analysis of the Embedded Signals From the Controllers. *Sarma, N.*, +, *TEC June 2021 800-811*
- Study on Direct Torque Control Methods of a Doubly Fed Induction Machine Working as a Stand-Alone DC Voltage Generator. *Maciejewski, P.*, +, *TEC June 2021 853-862*
- Thermal and Electromagnetic Stator Vent Design Optimisation for Synchronous Generators. *Bersch, K.*, +, *TEC March 2021 207-217*

- Torque Ripple Reduction Method for Permanent Magnet Synchronous Machine Drives With Novel Harmonic Current Control. *Qu, J.*, +, *TEC Sept. 2021 2502-2513*
- Transient Analysis of Line-Start Permanent Magnet Linear Synchronous Motors. *Di, J.*, +, *TEC Dec. 2021 3365-3375*
- Transient Torque Peak Reduction During DOL Starting of Three-Phase Induction Motors Using Zero-Crossing Switching Approach. *Aree, P.*, *TEC June 2021 649-657*
- Vector Control Applied to Mitigate the Electromagnetic Torque Ripple in Doubly Fed Induction Generator. *de Santana, M.P.*, +, *TEC Dec. 2021 2977-2986*
- Steady-state**
- A High Precision Method for Induction Machine Parameters Estimation From Manufacturer Data. *Amaral, G.F.V.*, +, *TEC June 2021 1226-1233*
- An Improved Finite-Control-Set Model Predictive Flux Control for Asymmetrical Six-Phase PMSMs With a Novel Duty-Cycle Regulation Strategy. *Yu, F.*, +, *TEC June 2021 1289-1299*
- Analysis of Feasible Synchronverter Pole-Placement Region to Facilitate Parameter Tuning. *Dong, S.*, +, *TEC Dec. 2021 2782-2793*
- Power Management for Islanded Hybrid AC/DC Microgrid With Low-bandwidth Communication. *Shen, X.*, +, *TEC Dec. 2021 2646-2658*
- Reduced-Order Modeling and Comparative Dynamic Analysis of DC Voltage Control in DC Microgrids Under Different Droop Methods. *Li, P.*, +, *TEC Dec. 2021 3317-3333*
- Steel**
- A Modified Inverse Vector Hysteresis Model for Nonoriented Electrical Steels Considering Anisotropy for FEA. *Yue, S.*, +, *TEC Dec. 2021 3251-3260*
- Improving Global Ferromagnetic Characteristics of Laminations by Heterogeneous Deformation. *Youssef, M.E.*, +, *TEC Sept. 2021 1953-1961*
- Step response**
- Identifying DQ-Domain Admittance Models of a 2.3-MVA Commercial Grid-Following Inverter via Frequency-Domain and Time-Domain Data. *Fan, L.*, +, *TEC Sept. 2021 2463-2472*
- Stochastic processes**
- Grid-Aware Distributed Model Predictive Control of Heterogeneous Resources in a Distribution Network: Theory and Experimental Validation. *Gupta, R.*, +, *TEC June 2021 1392-1402*
- Stress**
- Design of Ultra-High-Speed Motor for FCEV Air Compressor Considering Mechanical Properties of Rotor Materials. *Kim, J.*, +, *TEC Dec. 2021 2850-2860*
- Mechanical Stress Comparison of PMSG Wind Turbine LVRT Methods. *Zhou, A.*, +, *TEC June 2021 682-692*
- Method for the Prediction of the Potential Distribution in Electrical Machine Windings Under Pulse Voltage Stress. *Hoffmann, A.*, +, *TEC June 2021 1180-1187*
- Rotor Stress Analysis of High-Speed Permanent Magnet Machines With Segmented Magnets Retained by Carbon-Fibre Sleeve. *Wang, Y.*, +, *TEC June 2021 971-983*
- Topology, Modeling and Control Scheme for a new Seven-Level Inverter With Reduced DC-Link Voltage. *Khan, S.A.*, +, *TEC Dec. 2021 2734-2746*
- Substations**
- Model Predictive Control of Smart Districts With Fifth Generation Heating and Cooling Networks. *Taylor, M.*, +, *TEC Dec. 2021 2659-2669*
- Supercapacitors**
- A Decentralized Automatic Load Power Allocation Strategy for Hybrid Energy Storage System. *Wang, Z.*, +, *TEC Sept. 2021 2227-2238*
- Experimental Validation of a Hybrid Storage Framework to Cope With Fluctuating Power of Hybrid Renewable Energy-Based Systems. *Naderi, E.*, +, *TEC Sept. 2021 1991-2001*
- Multi-Parameter Collaborative Power Prediction to Improve the Efficiency of Supercapacitor-Based Regenerative Braking System. *Zhang, H.*, +, *TEC Dec. 2021 2612-2622*
- Support vector machines**
- Data-Driven Permanent Magnet Temperature Estimation in Synchronous Motors With Supervised Machine Learning: A Benchmark. *Kirchgassner, W.*, +, *TEC Sept. 2021 2059-2067*
- Improved Model Predictive Current Control for Three-Phase Three-Level Converters With Neutral-Point Voltage Ripple and Common Mode Voltage Reduction. *Yang, Y.*, +, *TEC Dec. 2021 3053-3062*
- Performance Investigation on SVPWM Sequences Based on Reduced Common-Mode Voltage in Dual Three-Phase Asymmetrical Machine. *Mansuri, A.*, +, *TEC Dec. 2021 2884-2893*
- Wind Turbine Gearbox Anomaly Detection Based on Adaptive Threshold and Twin Support Vector Machines. *Dhiman, H.*, +, *TEC Dec. 2021 3462-3469*
- Surges**
- Analysis of End-Windings Influence on the Transient Voltage Distribution in Machine Stator Windings by a Three Phase Model. *Sousa Ferreira, R.*, +, *TEC Sept. 2021 2110-2119*
- Suspensions (mechanical components)**
- A Novel Axial Split Phase Bearingless Flywheel Machine With Hybrid-Inner-Stator Permanent Magnet-Based Structure. *Zhu, Z.*, +, *TEC Sept. 2021 1873-1882*
- Suspensions (mechanical systems)**
- Model Predictive Thrust Force Control for Linear Motor Actuator used in Active Suspension. *Sun, X.*, +, *TEC Dec. 2021 3063-3072*
- Switches**
- A Common-Ground Quazi-Z-Source Single-Phase Inverter Suitable for Photovoltaic Applications. *Sarikhani, A.*, +, *TEC June 2021 594-601*
- A Current Allocation Strategy Based Balancing Technique of Voltage Source String in Switch-Ladder Inverter and Its Switched-Capacitor Variety. *Fong, Y.C.*, +, *TEC June 2021 1081-1089*
- A Variable Inductor Controlled Single-Stage AC/DC Converter for Modular Multi-Channel LED Driver. *He, Q.*, +, *TEC Dec. 2021 2912-2923*
- An Autonomous Control Scheme of Global Smooth Transitions for Bidirectional DC-DC Converter in DC Microgrid. *Li, X.*, +, *TEC June 2021 950-960*
- An Improved Finite-Control-Set Model Predictive Flux Control for Asymmetrical Six-Phase PMSMs With a Novel Duty-Cycle Regulation Strategy. *Yu, F.*, +, *TEC June 2021 1289-1299*
- An MPC Based Algorithm for a Multipurpose Grid Integrated Solar PV System With Enhanced Power Quality and PCC Voltage Assist. *Saxena, V.*, +, *TEC June 2021 1469-1478*
- Average-Value Modeling of Line-Commutated AC-DC Converters With Unbalanced AC Network. *Ebrahimi, S.*, +, *TEC Dec. 2021 3533-3544*
- Design of a Linear Time-Varying Model Predictive Control Energy Regulator for Grid-Tied VSCs. *Rodriguez-Bernuz, J.*, +, *TEC June 2021 1425-1434*
- Finite Control Set – Model Predictive Control Based On Sliding Mode For Bidirectional Power Inverter. *Estrada, L.*, +, *TEC Dec. 2021 2814-2824*
- Hybrid Model Predictive Control of DC-DC Boost Converters With Constant Power Load. *Karami, Z.*, +, *TEC June 2021 1347-1356*
- Improved Model Predictive Current Control for Three-Phase Three-Level Converters With Neutral-Point Voltage Ripple and Common Mode Voltage Reduction. *Yang, Y.*, +, *TEC Dec. 2021 3053-3062*
- Model Predictive Control of PMSM Drives Based on General Discrete Space Vector Modulation. *Zhang, Y.*, +, *TEC June 2021 1300-1307*
- Model-Based Predictive Rotor Current Control Strategy for Indirect Power Control of a DFIM Driven by an Indirect Matrix Converter. *Olloqui, A.*, +, *TEC June 2021 1510-1516*
- Performance Investigation on SVPWM Sequences Based on Reduced Common-Mode Voltage in Dual Three-Phase Asymmetrical Machine. *Mansuri, A.*, +, *TEC Dec. 2021 2884-2893*
- Topology, Modeling and Control Scheme for a new Seven-Level Inverter With Reduced DC-Link Voltage. *Khan, S.A.*, +, *TEC Dec. 2021 2734-2746*
- Transient Torque Peak Reduction During DOL Starting of Three-Phase Induction Motors Using Zero-Crossing Switching Approach. *Aree, P.*, *TEC June 2021 649-657*
- Variable-Switching Constant-Sampling Frequency Critical Soft Switching MPC for DC/DC Converters. *Zhou, L.*, +, *TEC June 2021 1548-1561*
- Switching converters**
- A Third-Order MAF Based QT1-PLL That is Robust Against Harmonically Distorted Grid Voltage With Frequency Deviation. *Mellouli, M.*, +, *TEC Sept. 2021 1600-1613*

- An Improved DC-Link Series IGBT Chopping Strategy for Brushless DC Motor Drive With Small DC-Link Capacitance. *Zheng, B.*, +, *TEC March 2021 242-252*
- An Improved Multilevel Inverter for Single-Phase Transformerless PV System. *Faraji, F.*, +, *TEC March 2021 281-290*
- Analysis and Performance of Five-Phase Piecewise-Random-Switching-Frequency Space Vector Pulse Width Modulation. *Bu, F.*, +, *TEC Sept. 2021 2339-2347*
- Carrier-Based Modulated Model Predictive Control Strategy for Three-Phase Two-Level VSIs. *Xu, J.*, +, *TEC Sept. 2021 1673-1687*
- Cascaded Predictive Flux Control for a 3-L Active NPC Fed IM Drives Without Weighting Factor. *Xiao, D.*, +, *TEC Sept. 2021 1797-1807*
- Power Loss and Thermal Impedance Modeling of Multilevel Power Converter With Discontinuous Modulation. *Islam, M.M.*, +, *TEC March 2021 36-47*
- Simplified Nonlinear Voltage-Mode Control of PWM DC-DC Buck Converter. *Al-Baidhani, H.*, +, *TEC March 2021 431-440*
- Switching frequency**
- Discrete Space Vector Modulation Based Model Predictive Flux Control With Reduced Switching Frequency for IM Drive. *Osman, I.*, +, *TEC June 2021 1357-1367*
- Sequential Phase-Shifted Model Predictive Control for Modular Multilevel Converters. *Poblete, P.*, +, *TEC Dec. 2021 2691-2702*
- Variable-Switching Constant-Sampling Frequency Critical Soft Switching MPC for DC/DC Converters. *Zhou, L.*, +, *TEC June 2021 1548-1561*
- Switching loss**
- Discrete Space Vector Modulation Based Model Predictive Flux Control With Reduced Switching Frequency for IM Drive. *Osman, I.*, +, *TEC June 2021 1357-1367*
- Synchronization**
- A Third-Order MAF Based QT1-PLL That is Robust Against Harmonically Distorted Grid Voltage With Frequency Deviation. *Mellouli, M.*, +, *TEC Sept. 2021 1600-1613*
- Model-Based Predictive Rotor Current Control Strategy for Indirect Power Control of a DFIM Driven by an Indirect Matrix Converter. *Olloqui, A.*, +, *TEC June 2021 1510-1516*
- Modeling and Analysis of SOGI-PLL/FLL-Based Synchronization Units: Stability Impacts of Different Frequency-Feedback Paths. *Zhang, C.*, +, *TEC Sept. 2021 2047-2058*
- Synchronous generators**
- A Consequent-Pole Hybrid Exciter for Synchronous Generators. *Nuzzo, S.*, +, *TEC March 2021 368-379*
- Application of State Feedback Controller to Ensure Robust D-Stable Operation of Virtual Synchronous Generators. *Pourmohammad, M.*, +, *TEC June 2021 602-610*
- Damping Effect of Virtual Synchronous Machines Provided by a Dynamical Virtual Impedance. *Huang, L.*, +, *TEC March 2021 570-573*
- Decentralized Frequency Control for Black Start of Full-Converter Wind Turbines. *Pena Asensio, A.*, +, *TEC March 2021 480-487*
- Double-Side Voltage-Behind-Reactance Model of Brushless Exciter in Aircraft Wound-Rotor Synchronous Starter-Generator Considering Magnetic Saturation. *Jiao, N.*, +, *TEC Sept. 2021 2358-2369*
- Experimental Evaluation of a Rare Earth-Free Permanent Magnet Generator. *Eklund, P.*, +, *TEC March 2021 3-10*
- Fast Frequency Regulation in Islanded Microgrid Using Model-Based Load Estimation. *Hussain, A.*, +, *TEC Dec. 2021 3188-3198*
- Inclusion of Current Limiter Nonlinearity in the Characteristic Analysis of Sustained Subsynchronous Oscillations in Grid-Connected PMSGs. *Wu, T.*, +, *TEC Sept. 2021 2416-2426*
- Modeling and Analysis of Inner Controls Effects on Damping and Synchronizing Torque Components in VSG-Controlled Converter. *Qu, Z.*, +, *TEC March 2021 488-499*
- Self-Regulated Solar PV Systems: Replacing Battery via Virtual Inertia Reserve. *Saxena, P.*, +, *TEC Sept. 2021 2185-2194*
- Stability Assessment and Damping Optimization Control of Multiple Grid-connected Virtual Synchronous Generators. *Sun, P.*, +, *TEC Dec. 2021 3555-3567*
- Thermal and Electromagnetic Stator Vent Design Optimisation for Synchronous Generators. *Bersch, K.*, +, *TEC March 2021 207-217*
- Transient Stability Enhancement Control Strategy Based on Improved PLL for Grid Connected VSC during Severe Grid Fault. *Liu, Y.*, +, *TEC March 2021 218-229*
- Synchronous machines**
- A Rotor Initial Position Estimation Method for Surface-Mounted Permanent Magnet Synchronous Machine. *Wu, X.*, +, *TEC Sept. 2021 2012-2024*
- A Simple Flux-Based Technique to Specify the Faulty Pole of the Salient Pole Synchronous Machines. *Milasi, M.E.*, +, *TEC March 2021 264-271*
- Equivalent Broadband Electrical Circuit of Synchronous Machine Winding for Frequency Response Analysis Based on Gray Box Model. *Zhao, Z.*, +, *TEC Dec. 2021 3512-3521*
- Investigation of Asymmetric and Unbalanced Winding Structures for 3-Phase Permanent Magnet Synchronous Machines. *Demir, Y.*, +, *TEC Sept. 2021 1722-1732*
- Methods to Improve the Cogging Torque Robustness Under Manufacturing Tolerances for the Permanent Magnet Synchronous Machine. *Yang, Y.*, +, *TEC Sept. 2021 2152-2162*
- Mitigation of Unbalanced Magnetic Pull in Synchronous Machines With Rotating Exciters. *Evestedt, F.*, +, *TEC June 2021 812-819*
- Modified Core Loss Calculation for High-Speed PMSMs With Amorphous Metal Stator Cores. *Tong, W.*, +, *TEC March 2021 560-569*
- Performance Analysis of a Coreless Axial-Flux PMSM by an Improved Magnetic Equivalent Circuit Model. *Zhao, J.*, +, *TEC Sept. 2021 2120-2130*
- Torque Ripple Reduction Method for Permanent Magnet Synchronous Machine Drives With Novel Harmonic Current Control. *Qu, J.*, +, *TEC Sept. 2021 2502-2513*
- Synchronous motor drives**
- Torque Ripple Reduction Method for Permanent Magnet Synchronous Machine Drives With Novel Harmonic Current Control. *Qu, J.*, +, *TEC Sept. 2021 2502-2513*
- Synchronous motors**
- A Non-Intrusive Leakage Flux Based Method for Detecting Rotor Faults in the Starting Transient of Salient Pole Synchronous Motors. *Shaikh, M.F.*, +, *TEC June 2021 1262-1270*
- A Rotor Initial Position Estimation Method for Surface-Mounted Permanent Magnet Synchronous Machine. *Wu, X.*, +, *TEC Sept. 2021 2012-2024*
- A Three-Phase Digital Current Controller Using Error-Free Feedback Acquisition With Half Delay. *Shen, H.*, +, *TEC Sept. 2021 1660-1672*
- Absolute Inductance Estimation of PMSM Considering High-Frequency Resistance. *Li, C.*, +, *TEC March 2021 81-94*
- Adaptive Compensation Flux Observer of Permanent Magnet Synchronous Motors At Low Carrier Ratio. *Sun, X.*, +, *TEC Dec. 2021 2747-2760*
- Cuckoo Search Algorithm for Multi-Objective Optimization of Transient Starting Characteristics of a Self-Starting HVPMSM. *Wang, L.*, +, *TEC Sept. 2021 1861-1872*
- Data-Driven Permanent Magnet Temperature Estimation in Synchronous Motors With Supervised Machine Learning: A Benchmark. *Kirchgassner, W.*, +, *TEC Sept. 2021 2059-2067*
- Design of Ultra-High-Speed Motor for FCEV Air Compressor Considering Mechanical Properties of Rotor Materials. *Kim, J.*, +, *TEC Dec. 2021 2850-2860*
- Detection of Field Winding Faults in Synchronous Motors via Analysis of Transient Stray Fluxes and Currents. *Tian, P.*, +, *TEC Sept. 2021 2330-2338*
- Experimental Evaluation of a Rare Earth-Free Permanent Magnet Generator. *Eklund, P.*, +, *TEC March 2021 3-10*
- Experimental Verification With Loads of Line-Start Type Self-Excited Wound-Field Motor With Three-Phase Concentrated Winding Stators. *Aoyama, M.*, +, *TEC June 2021 1234-1244*
- Fast Initial Rotor Position Estimation for IPMSM With Unipolar Sequence-Pulse Injection. *Lin, K.*, +, *TEC Dec. 2021 3545-3554*
- Insight to Enhancing the Performance of the Pole Drop Test for Detecting Field Winding Turn Faults in Salient Pole Synchronous Motors. *Shaikh, M.F.*, +, *TEC Dec. 2021 3582-3585*

Investigation Into Periodic Signal-Based Dithering Modulations for Suppression Sideband Vibro-Acoustics in PMSM Used by Electric Vehicles. *Qiu, Z.*, +, *TEC Sept. 2021 1787-1796*

Investigation of Asymmetric and Unbalanced Winding Structures for 3-Phase Permanent Magnet Synchronous Machines. *Demir, Y.*, +, *TEC Sept. 2021 1722-1732*

Mechanical and Magnetic Pivot Roles of Tooth in Vibration of Electrical Machines. *Wang, S.*, +, *TEC March 2021 139-148*

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- Windings**
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