SPIS TREŚCI

nr 1

1 A Sensorless Starting Control Strategy for Switched Reluctance Motor Drives with Current Threshold / Jun Cai and Zhiquan Deng
16 Frequency Control of Microgrids in Autonomous Mode by a Novel Control Scheme Based on Droop Characteristics / Mojtaba Khederzadeh and Hamed Maleki
31 Implementation of Energy-efficient Inverter for Renewable Energy Sources / Ilhami Colak and Ersan Kabalci
47 Model Reference Adaptive System Based Adaptive Speed Estimation for Sensorless Vector Control with Initial Rotor Position Estimation for Interior Permanent Magnet Synchronous Motor Drive / Amor Khlaief, Mohamed Boussak and Moncef Gossa
75 An Efficient Hybrid Big Bang–Big Crunch Algorithm for Multi-objective Reconfiguration of Balanced and Unbalanced Distribution Systems in Fuzzy Framework / Mostafa Sedighizadeh, Saeedeh Ahmadi and Mohammad Sarvi
100 Development of Controller for Parallel Operation of Gas Turbine Plants / S. Selvakumar, S. Balamurugan and R. Joseph Xavier
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>Solution to Security-constrained Non-convex Pumped-Storage Hydraulic Unit Scheduling Problem by Modified Subgradient Algorithm Based on Feasible Values and Pseudo Water Price</td>
<td>Salih Fadil and Burak Urazel</td>
</tr>
<tr>
<td>136</td>
<td>Optimal Automatic Generation Control of Interconnected Power System Considering New Structures of Matrix Q</td>
<td>Naimul Hasan, Ibraheem and Prabhat Kumar</td>
</tr>
<tr>
<td>157</td>
<td>Advanced Battery Storage Control for an Autonomous Microgrid</td>
<td>Ritwik Majumder, Saikat Chakrabarti, Gerard Ledwich and Arindam Ghosh</td>
</tr>
<tr>
<td>182</td>
<td>Single-phase, 17-Level Hybridized Cascaded Multi-level Inverter</td>
<td>Charles I. Odeh and Damian B.N. Nnadi</td>
</tr>
<tr>
<td>197</td>
<td>Multi-objective Clearing of Reactive Power Market Including Plug-in Hybrid Electric Vehicle</td>
<td>H. Feshki Farahani, H.A. Shayanfar and M.S. Ghazizadeh</td>
</tr>
<tr>
<td>221</td>
<td>Performance Evaluation of Insulators Using Flashover Voltage and Leakage Current</td>
<td>Mohammad Hamed Samimi, Amir Hossein Mostajabi, Iman Ahmadi-Joneidi, Amir Abbas Shayegani-Akmal and Hossein Mohseni</td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>235</td>
<td>High Dynamic Performance of Interior Permanent Magnet Synchronous Motor Drives Based on Feed-forward Load Torque Compensator</td>
<td>Mohamed S. Zaky, Mahmoud A. Morsi and Shokry S. Shokrallah</td>
</tr>
<tr>
<td>271</td>
<td>Wind Power Scenario Generation and Reduction in Stochastic Programming Framework</td>
<td>Kailash Chand Sharma, Prerna Jain and Rohit Bhakar</td>
</tr>
<tr>
<td>324</td>
<td>Modeling and Analysis of Voltage and Power Control Devices in Current Injections Load Flow Method</td>
<td>Salah Kamel, Mamdouh Abdel-Akher, F. Jurado and F.J. Ruiz-Rodriguez</td>
</tr>
<tr>
<td>345</td>
<td>Implementation of a Simulator for the Most Commonly Found Industrial Motor Loads Based on Pulse-width Modulation Inverters and Torque Estimator</td>
<td>José Carlos Grilo Rodrigues, Ângelo José Junqueira Rezek, Manuel Luiz Barreira Martinez, Délvio Franco Bernardes and Nery de Oliveira Júnior</td>
</tr>
</tbody>
</table>
nr 4


383 A Coordinated Voltage and Frequency Control of Inverter Based Distributed Generation and Distributed Energy Storage System for Autonomous Microgrids / Mostafa I. Marei and Mohamed H. Soliman

401 Flexible Control of Single-phase Unified Power Quality Conditioner Using Frequency-domain Approach / Yash Pal, A. Swarup and Bhim Singh

413 Design of Synchronous Motor with High-temperature Superconductive Field Windings for Marine Propulsion Applications / M. Kashani, M. Hosseina and A. Darabi

427 Proportional-integral-differential Neural Network Based Sliding-mode Controller for Modular Multi-level High-voltage DC Converter of Offshore Wind Power / Shuang Li, Zhixin Wang and Guoqiang Wang

447 Performance Improvement of a Photovoltaic Pumping System Using a Synchronous Reluctance Motor / M. Nabil, S.M. Allam and E.M. Rashad

465 Sensitivity and Particle Swarm Optimization-based Congestion Management / K.S. Pandya and S.K. Joshi

500  Differential Evolution Technique with Random Localization for Tuned Reactive Power Dispatch Problem / **Syamasree Biswas (Raha), Niladri Chakraborty and Kamal Krishna Mandal**

519  Electric Distribution System Fault Location Considering Shunt Capacitances / **Yuan Liao**

537  Distribution Systems Reconfiguration Using Ant Colony Optimization and Harmony Search Algorithms / **Almoataz Y. Abdelaziz, Reham A. Osama and Salem M. Elkhodary**

555  Mixed-integer Quadratic Programming Based Rounding Technique for Power System State Estimation with Discrete and Continuous Variables / **H. Maalouf, R.A. Jabr and M. Awad**


605 Multi-level Shunt Active Power Filter Using Modular Cascade H-bridge and Delay Firing / K.M. Tsang, W.L. Chan and Xin Tang

619 Active and Reactive Power Control of Doubly Fed Induction Generators for Wind Energy Generation under Unbalanced Grid Voltage Conditions / E.G. Shehata

641 Application of Voltage Harmonic Distortion Positive Feedback for Islanding Detection / Jing Ma, Chao Mi, Shuxia Zheng, Tong Wang, Xinbin Lan, Zengping Wang, James S. Thorp and A.G. Phadke
Optimal Design of C-type Passive Filters Based on Response Surface Methodology for Typical Industrial Power Systems / Murat Erhan Balci and Aslan Deniz Karaoglan

Analysis of Doubly Fed Induction Generator and Synchronous Machine Cascade for Small Hydropower Applications / James O. Owuor, J.L. Munda and A.A. Jimoh

Fault Location of Uncompensated/Series-compensated Lines Using Two-end Synchronized Measurements / A.Y. Abdelaziz, S.F. Mekhamer and M. Ezzat

Intelligent Control of a Static Synchronous Series Compensator via a Self-tuning Proportional-integral-derivative Controller Based on the Lyapunov Method to Mitigate Inter-Area Oscillations / Mohsen Farahani and Soheil Ganjefar

Damping of Power System Oscillations via Quantum Particle Swarm Optimization Based Distributed Static Series Compensator / M. Khayyat zadeh and B. Tousi
Balanced Truncation Approach to Power System Model Order Reduction / Sudipta Ghosh and Nilanjan Senroy


A Stochastic Hybrid Method to Forecast Operating Reserve: Comparison of Fuzzy and Classical Set Theory / Arash Asrari, Amin Kargarian, Mohammad Hossein Javidi, Mohammad Monfared and Saeed Lotfifard

Analytical Model of Four-cell Grid-connected Multilevel Cascaded H-bridge DC-to-AC Converter / Charles I. Odeh and Olorunfemi Ojo
In Memoriam: Jim Cathey / Ion G. Boldea

Hybrid Neuro-fuzzy Legendre-based Adaptive Control Algorithm for Static Synchronous Series Compensator / Rabiah Badar and Laiq Khan

Application of Characteristic Impedance and Wavelet Coherence Technique to Discriminate Mechanical Defects of Transformer Winding / A.J. Ghanizadeh and G.B. Gharehpetian

Load-shedding Strategies for Preventing Cascading Failures in Power Grid / S. Pahwa, C. Scoglio, S. Das and N. Schulz

A Single-stage High Boosting Ratio Converter for Grid-connected Photovoltaic Systems / Mohamed Orabi, Mahrous Ahmed and Omar Abdel-Rahim

Wide-area Automatic Voltage Regulators Controller for Damping Oscillations Based on Inter-area Modes / Hany A. Abdelsalam and Almoataz Y. Abdelaziz
927 Allocation of the Loss-of-life Cost of In-service Distribution Cables to Network Customers / Seyed Mohammad Mousavi Agah, Ali Abbasi, Hamed Hashemi and Ehsan Azad Farsani

943 Optimal Reconfiguration of Electrical Networks by Applying Tabu Search to Decrease Voltage Sag Indices / S. García-Martínez and E. Espinosa-Juárez

960 Constant Voltage-clamping Bipolar Pulse Current Source for Transient Electromagnetic System / Haitao Zhao, Lihua Liu, Kai Wu, Youzheng Qi and Guangyou Fang


990 NSGAII-based Congestion Management in a Pool-based Electricity Market Incorporating Voltage and Transient Stability / Tulika Bhattacharjee and Ajoy Kumar Chakraborty

1002 A Fast Inductance Computation Devoted to the Modeling of Healthy, Eccentric, and Saturated Induction Motors / Adel Ghoggal, Mohamed Sahraoui, Salah Eddine Zouzou and Hubert Razik
1023 Short Through Avoidance in AC-AC Choppers / Muhammad Mansoor Khan, Yang Han, M.A. Rizvi and Q.R. Butt
1041 Subsynchronous Impact of Series Compensation on Induction Generator Based Wind Farm / Akshaya Moharana, Rajiv K. Varma and Ravi Seethapathy
1059 Power Electronic Interface for Energy Management in Battery Ultracapacitor Hybrid Energy Storage System / Sumit Kumar and H.P. Ikkurthi
1075 Robust Load Frequency Controller Design Based on a New Strict Model / Chongxin Huang, Kaifeng Zhang, Xianzhong Dai and Qiang Zang
1100 A Distributed-parameters Transmission Line Model Developed Directly in the Phase Domain / Newton V. Souza, Carolina G. Carvalho, Sérgio Kurokawa and José Pissolato
1114 A Reduced Sensor Power Factor Corrected Bridgeless Flyback Converter Fed Brushless DC Motor Drive / Bhim Singh and Vashist Bist
1129 A Model for the Ultra-saturation Phenomenon During Energization of an Unloaded Power Transformer and Its Effect on Differential Protection / Bahram Noshad, Morteza Razaz and Seyed Ghodratollah Seifossadat

1146 Neural Network Model Reference Adaptive System Speed Estimation for Sensorless Control of a Doubly Fed Induction Generator / José Antonio Cortajarena and Julián De Marcos

1159 Performance Analysis of a Line-start Permanent Magnet Motor with Slots on Solid Rotor Using Finite-element Method / Milad Niaz Azari and Mojtaba Mirsalim

1173 Power Frequency Converter Based on Integral-cycle Triggering Mode of Thyristors with Multi-control Periods / Mohammed T. Lazim

1188 Development of Two Novel Power Electronic Circuits for Dynamic Braking of Motors / K. Sundareswaran and P. Sankar

1205 A Generalized Subspace Least Mean Square Method for High-resolution Accurate Estimation of Power System Oscillation Modes / Peng Zhang, Ning Zhou and Ali Abdollahi
1213  Field Weakening of a Surface-mounted Permanent Magnet Motor by Winding Switching / S. Hemmati and T.A. Lipo
1223  Multi-objective Performance Management of the Capacitor Allocation Problem in Distributed System Based on Adaptive Modified Honey Bee Mating Optimization Evolutionary Algorithm / Abdollah Kavousi-Fard and Haidar Samet
1248  Steady-state Performance Assessment of Induction Motor under Unbalanced Voltage Condition / Shashi Bhushan Singh and Asheesh K. Singh
1264  Electromechanical Modes Identification Based on Sliding-window Data from a Wide-area Monitoring System / Camilo A. Ordóñez and Mario A. Ríos
1280  Aging Characteristics of Inter-turn Insulation of Form-wound Stator Windings of Inverter-fed AC Motors / Kai Zhou, Li Wan and Xutao Li
1294  A Novel Single-phase Inverter with Distribution Static Compensator Capability for Wind Applications / Pedram Sotoodeh and Ruth Douglas Miller
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1311</td>
<td>Distributed Parameters Model for High-impedance Fault Detection and Localization in Transmission Lines</td>
<td>V. Torres, S. Maximov, H.F. Ruiz and J.L. Guardado</td>
</tr>
<tr>
<td>1334</td>
<td>Applying Dynamic Load Estimation and Distributed-parameter Line Model to Enhance the Accuracy of Impedance-based Fault-location Methods for Power Distribution Networks</td>
<td>Rahman Dashti and Javad Sadeh</td>
</tr>
<tr>
<td>1363</td>
<td>Adaptive Equalizers Applied to Faults Location in Power Transmission Lines</td>
<td>Marcelo Augusto Costa Fernandes</td>
</tr>
<tr>
<td>1381</td>
<td>Classification Trees for Complex Synchrophasor Data</td>
<td>Anamitra Pal, J.S. Thorp, Taufiquar Khan and S. Stanley Young</td>
</tr>
<tr>
<td>1397</td>
<td>Determination of Stator End Winding Inductance of Large Induction Machines: Comparison Between Analytics, Numerics, and Measurements</td>
<td>Thomas Schuhmann, Alexander Conradi, Christian Deeg and Konrad Brandl</td>
</tr>
</tbody>
</table>
1456  Mixed-integer Linear Programming Formulation for Short-term Scheduling of Cascaded Hydroelectric Plants with Pumped-storage Units / Jiangtao Jia
1469  Improved Power Flow Initialization of Dynamic Studies with Non-linear Composite Load Model / Pichai Aree
1486  Electromechanical Modeling of a Contactor with AC Coil / Elmer Sorrentino and Armando Maduro
1501  Synchronous Generator Off-line Diagnosis Approach Including Fault Detection and Estimation of Failures on Machine Parameters / Abdelhalim Lalami and René Wamkeue
1518  Double-series Resonant Inverter-fed Voltage Multiplier Based High-voltage DC-DC Converter / Sze Sing Lee, Shahid Iqbal and Mohamad Kamarol
1536  An Economic-based Special Protection System in a Restructured Environment / Fariba Lotfifard, Hossien Seifi and Mohammad Kazem Sheikh-El-Eslami
1567 Cuckoo Search-based Algorithm for Optimal Shunt Capacitors Allocations in Distribution Networks / **Attia A. El-Fergany and Almoataz Y. Abdelaziz**

1582 A Practical Sensorless Permanent Magnet Brushless DC Motor Drive with New Start-up Scheme for Automotive Engine Cooling Applications / **Cui Wei, Fu Jiangbo, Luo Miao and Zhang Yuejin**

1594 Predicting Voltage Unbalance Impacts of Plug-in Electric Vehicles Penetration in Residential Low-voltage Distribution Networks / **Farhad Shahnia, Arindam Ghosh, Gerard Ledwich and Firuz Zare**

1617 SM-based IMC-PID Control of Single-switch Quadratic Boost Converter for Wide DC Conversion Ratios / **Shama Ravichandran, Krishna Rao Vutukuru and S.K. Patnaik**

1635 Six-Phase Inverter Operation with Space Vector Pulse-width Modulation for a Symmetrical Single Neutral Load / **Mohan Vitthalrao Aware**


1672 Dynamic Unbalanced Pull from Field Winding Turn Short Circuits in Hydropower Generators / **Mattias Wallin and Urban Lundin**

1686 Smart Model Based Coordinated Control Based on Feeder Losses, Energy Consumption, and Voltage Violations / **Ahmet Onen, Danling Cheng, Reza Arghandeh, Jaesung Jung, Jeremy Woyak, Murat Dilek and Robert P. Broadwater**

Oprac. BPK